

Glossary of ICT terminology

This **Glossary of ICT terminology**, compiled by Graham Davies and Fred Riley, contains a list of technical terminology and terms specific to ICT and language learning and teaching. It also serves as an **index** to topics covered at the ICT4LT website. Anything underlined in blue will link you to further information, either within this Glossary, within the ICT4LT website, or anywhere on the Web as a whole. The ICT4LT website also has its own internal [Search Engine](#). We welcome suggestions for additions to the Glossary: [Feedback and blog](#)

If you cannot find what you want here, try these other sources:

- **Glossary of Internet Terms:** A comprehensive list of Internet terminology compiled by Matisse Enzer: <http://www.matisse.net/files/glossary.html>
- **FOLDOC (Free Online Dictionary Of Computing):** A searchable dictionary of ICT terms: <http://foldoc.org/foldoc/>
- **Wikipedia:** A collaboratively written general encyclopaedia that is constantly updated. It contains many useful entries on technical terminology: <http://www.wikipedia.org>. Here's a useful tip: If you find an article on Wikipedia in English and then click on one of the language options in the left-hand column of the page, you are linked immediately to an article on the same topic in that language. See the entry in this Glossary under [Wiki](#).
- **Webopedia:** A comprehensive online dictionary and search engine for computer and Internet technology terms: <http://www.webopedia.com>
- For more detailed descriptions of computer [Hardware](#) (including images) see [Module 1.2](#), *Introduction to computer hardware and software*.
- You can also use the **Google** search engine to find definitions of words and how words are used in context. See [Section 4, Module 1.5](#), headed *Search engines: How to find materials on the Web*.

Click on a letter of the alphabet to go to the first entry for that letter.

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

A

Absolute Link: A term used by Web authors. In an [HTML](#) document a [Relative Link](#) indicates the location of a file relative to the document, whereas an *absolute link* specifies the full URL. For example, the *relative link* of this Glossary to the ICT4LT homepage is [../en/en_glossary.htm](#) whereas its *absolute link* is http://www.ict4lt.org/en/en_glossary.htm. It's generally better for Web authors to link to files within the same website using relative links rather than absolute links, as this makes site and file maintenance easier. See [Section 5.4, Module 3.3](#), headed *Shared resources*.

Acceptable Use Policy (AUP): An AUP is a set of rules that define the ways in which ICT facilities can and cannot be used in a business or educational institution, including a description of the possible sanctions that can be applied if a user breaks the rules. Two of the most important topics covered by an AUP are (i) **e-safety** and (ii) **awareness of and compliance with copyright**. See [Section 12.6, Module 1.5](#), headed *E-safety*, and [General guidelines on copyright](#) for further information about these topics.

Access: The name of a [Database](#) program forming part of the [Microsoft Office](#) suite of programs.

Accessibility: The fundamental issue regarding *accessibility* is that everyone should have access to the services provided by ICT, e.g. computer programs, [Email](#) and the World Wide Web, regardless of any visual, auditory, or other physical impairment they might have. [Assistive Technology](#) may be employed to increase access to such services, e.g. [Text To Speech \(TTS\)](#) screen readers, screen magnifiers, speech recognition systems, hearing assistance devices, etc. Designers of computer programs and websites need to take account of accessibility when choosing colours, fonts and font sizes, etc: see [Font](#). See [Section 4, Module 3.5](#) regarding speech technologies and how they may help unsighted and partially sighted computer users and people with hearing impairments. See [SENDA](#). See [Section 6.3.1, Module 3.3](#), headed *HTML Validators*, regarding website accessibility.

Action Maze: A type of computer program used in Computer Assisted Language Learning. See [Maze](#) for a more detailed explanation.

Active Matrix: A term used to describe the newer type of computer [Display Screen](#) that makes use of Thin Film Transistor (TFT) technology: see [TFT](#). Active matrix screens have excellent colour resolution and can display motion accurately and rapidly. See [Resolution](#).

Additive Colour: A term used mainly by graphic designers. *Additive colour* is produced by the addition of light from a luminescent primary source. A light bulb appears white because it emits light in all colours of the visible spectrum, which combine to produce white light. All the colours in the light spectrum add up to make white light. Computer monitors use three additive colours, Red, Green and Blue (RGB), which are combined in different ways to produce millions of other colours. See [CMY](#), [RGB](#), [Subtractive Colour](#).

Address Book: Usually supplied as part of your [Email](#) software. An *address book* in this sense is used to keep a record of all the email addresses of people whom you may wish to contact by email.

ADSL: Abbreviation for Asymmetric Digital Subscriber Line. A high-speed digital telephone connection that operates over an existing copper telephone line, allowing the same line to be used for voice calls. ADSL lines offer transmission speed that are usually in the range 2Mbps to 8Mbps, and are used mainly for [Internet](#) access. The term *asymmetric* is used because the data flows more quickly from the telephone exchange to the user than from the user to the exchange - because most Web users are more interested in receiving data quickly from websites rather than uploading it to websites. The term *symmetric* is used for connections where the data flows at the same speed in both directions, which is essential for accessing websites where there is a high degree of interactivity. See [Broadband](#), [ISDN](#), [Kbps](#), [Leased Line](#), [Mbps](#).

Adventure Game: Adventure games date back to the early days of mainframe computing. The early adventure games consisted entirely of written text, but modern adventure games incorporate elaborate graphics, sound and video sequences. The dividing line between an adventure game and a [Simulation](#) is rather fuzzy. In both sorts of programs there are a number of obstacles to overcome, and the player has to indulge in mind-stretching lateral thinking in order to overcome them. Adventure games are often set in a fantasy world, e.g. *Myst* or *Riven*, but some are more down-to-earth and can play an important role in language teaching and learning, e.g. *Who is Oscar Lake?* See [Section 3.4.9, Module 2.2](#), headed *A simulation on CD-ROM*. See [Maze](#), [MOO](#), [MUD](#), [MUVE](#).

Adware is software that may have been installed on your computer by a remote computer, i.e. via the Web. Many free utilities that you download from the Internet will install hidden software that sends details of the websites you visit and other information from your computer (which can include your email address) to advertisers so they can target you with popup ads and spam. See <http://www.camsoftpartners.co.uk/bugs.htm>, where tools for removing *adware* and *spyware* are described. See [Spam](#), [Spyware](#).

AI: Abbreviation for [Artificial Intelligence](#).

AJAX: Acronym for Asynchronous [JavaScript](#) and [XML](#). AJAX is a Web programming tool (or rather a set of tools) that makes it possible to create interactive Web applications that work in much the same way as desktop applications, i.e. more responsive, more spontaneous, so that when you click on something on the Web page there is very little time delay - as in your desktop word-processor, for example. While you are browsing a Web page AJAX is working behind the scenes. AJAX allows your browser to fetch data from the Web and use it to update a fragment of the page without refreshing the whole page so that you don't have to wait for the whole Web page to refresh or reload each time you click on a button or initiate an action in some other way. This increases the Web page's interactivity, speed, functionality, and usability. *Google Maps* is a typical example of a Web application incorporating AJAX. Scroll around the map and watch it update itself with relatively little time delay:

<http://maps.google.co.uk/maps>. AJAX is a programming tool that is used extensively in what are known as [Web 2.0](#) applications. See [Section 2.1, Module 1.5](#), headed *What is Web 2.0?*

ALTE: Abbreviation for [Association of Language Testers in Europe](#).

Alt Key: The *Alt* keys can be found on either side of the space bar on a computer keyboard. They are commonly used in conjunction with a set of numbers to enable foreign characters to be typed. See [ASCII](#), [ANSI](#). See [Section 5, Module 1.3](#), headed *Typing foreign characters*.

Analogue: The basic meaning of analogue is "something that corresponds to something else". For example, in the context of equipment used for recording and playing back sound, analogue refers to the way in which the sound is recorded and reproduced. If you look closely at the groove of a 33 rpm vinyl gramophone record you will see that it is essentially a continuous wave, an undulating series of "hills". These "hills" correspond to the nature and volume of the sound that has been recorded. As the stylus of the record player moves along the wave it produces vibrations that are amplified and converted into sound. A parallel can be drawn with radio transmissions, where the sound signals are transmitted in the form of invisible waves. Early mobile phones worked in a similar way. Older tape recorders and videocassette recorders are based on the same principle, except that the signals representing the sound and moving images are imprinted onto a plastic tape coated with a magnetic

powder. All analogue recordings suffer from background noise, and the quality of reproduction gradually degrades as the record or tape wears out. If the recording is copied, the copy will not be as good as the original, regardless of the quality of the equipment used to copy it. See the contrasting term [Digital](#).

Anchor: A term used in connection with [HTML](#), the coding system used for creating Web pages. An anchor is the target of a [Hyperlink](#), i.e. a point in a Web document to which you jump when you click on a hyperlink.

Animation: The display of a sequence of images in a computer program or on a Web page to give the impression of movement.

ANSI: Abbreviation for American National Standards Institute. This is a system that specifies code numbers for all the characters that appear on a computer [Keyboard](#), plus the extended character set used in *Microsoft Windows*. It includes all the [ASCII](#) codes plus many others. Each character on the keyboard of a computer is assigned a unique ANSI code number, e.g. A = ANSI 065. Characters that don't appear on the keyboard can be typed by holding down the *Alt* key, pressing a series of digits on the number pad, e.g. ALT + 0233, and then releasing the *Alt* key. 0233 is the ANSI code for é. See also [Unicode](#). See [Alt Key](#). See [Section 5, Module 1.3](#), headed *Typing foreign characters*.

Anonymous FTP: An *anonymous FTP* is a convention whereby users are not required to identify themselves with an account number, user name or password when they access a website from which they wish to download publicly available programs or files. Users may, however, be required to enter their email address before accessing certain websites. The vast majority of publicly available [Freeware](#) and [Shareware](#) archives on the Web permit anonymous FTP. See [FTP](#).

Anorak: A colloquial term that is often used to describe someone who is fascinated by the technology of computers but not particularly interested in their applications. A synonym is [Trainspotter](#). Both terms are closely allied to [Geek](#), [Nerd](#) and [Techie](#) - which have slightly different connotations.

Anti-virus Software: See [Virus](#).

Apache: The most popular [Web Server](#) software on the [World Wide Web](#). Apache runs mainly on [Unix](#) systems, although there is also a [Microsoft Windows](#) version. The Apache Project website is at <http://www.apache.org>

API: Abbreviation for Application Programming Interface. API is a so-called protocol of communication that enables different computer programs to communicate with one another. A good API makes it easier to develop a program by providing all the building blocks that the programmer needs. Although APIs are designed for programmers, they are also good for program users insofar as they guarantee that all programs using a common API will have similar interfaces. This makes it easier for users to learn new programs.

Applet: A small program written in the [Java](#) programming language and embedded in a Web page. When you use your [Browser](#) to access a Web page, an applet may run "inside" the Web page, as it were, to perform an interactive animation, make a calculation or carry out another simple task.

Application: A computer program or a suite of computer programs that performs a particular function for the user, such as a word-processor, e.g. *Microsoft Word*, or a range of functions, such as *Microsoft Windows* or *Microsoft Office*. See [Computer Program](#), [Operating System](#), [Windows](#), [Word-processor](#).

Archive: Used to describe documents or files that are not immediately needed but which should not be completely discarded. An *archive* may be stored on a separate [Hard Disk](#), [CD-ROM](#), [DVD](#) or other [Storage Device](#). Also used to describe stored messages that have been contributed to *discussion lists* or *blogs*. Also used as a verb. See [Blog](#), [Discussion List](#).

Artificial Intelligence (AI): The ability of a computer to mimic human attributes in finding a solution to a problem. *Artificial Intelligence* techniques are applied in various ways in computer applications in the language world, e.g. in [Machine Translation \(MT\)](#) programs and in grammar and style checkers. See [Module 3.5](#), *Human Language Technologies (HLT)*, especially [Section 6](#), headed *Human Language Technologies and CALL*, and [Section 8](#) on *Parser-based CALL*. See [ICALL \(Intelligent CALL\)](#).

ASCII: Abbreviation for American Standard Code for Information Interchange. This is a system that specifies code numbers for all the characters that appear on a computer [Keyboard](#), plus other specialised characters. Each character on the keyboard of a computer is assigned a unique ASCII code number, e.g. A = ASCII 65. Characters that don't appear on the keyboard can be typed by holding down the *Alt* key, pressing a series of digits on the number pad, e.g. ALT + 130, and then releasing the *Alt* key. 130 is the ASCII code for é. The [ANSI](#) character set (as used in *Microsoft Windows*) includes many more characters, Unicode includes even more and is becoming a standard coding system. See [Unicode](#). See [Alt Key](#). See [Section 5](#), [Module 1.3](#), headed *Typing foreign characters*.

ASF: Abbreviation for Advanced Streaming Format. This is Microsoft's own file format that stores both audio and video information and is specially designed to run over the Internet. ASF enables content to be delivered as a continuous stream of *streaming audio* or *streaming video* data, with little wait time before playback begins. This means that you no longer have to wait for your audio and video files to fully download before starting to view them. See [Streaming](#). See [AVI](#), [MOV](#), [MPEG](#), [RM](#), which are alternative video file formats. See [Media Player](#). See [Section 2.2.3.4](#), [Module 2.2](#), headed *Video editing software*.

ASR: Abbreviation for [Automatic Speech Recognition](#).

Assistive Technology: This term describes computer software or devices used by people with special needs to enable them to access the services provided by ICT, e.g. computer programs, [Email](#) and the World Wide Web. Technologies under this heading include [Text To Speech \(TTS\)](#) screen readers for the unsighted or partially sighted, alternative keyboards and mice for people who have problems in hand-eye coordination, head-pointing devices, speech recognition software, and screen magnification software. See [Accessibility](#), [Pointing Device](#), [SENDA](#).

Association of Language Testers in Europe (ALTE): An association of providers of foreign language examinations: <http://www.alte.org>

Asynchronous: "Not at the same time". Often used to refer to communication by [Email](#) or via a [Discussion List](#), where the recipients of the email or the participants in the discussion do not

have to be present at the same time and can respond at their own convenience. A feature of *asynchronous learning* is that the teachers and learners do not have to be present at their computers at the same time. See [Synchronous](#). See [Section 14, Module 1.5](#), headed *Computer Mediated Communication (CMC)*.

Attachment: A term used in connection with [Email](#). An attachment can be a [File](#) of almost any kind - a document file, an image file, a sound file or a video clip - that you can add, i.e. *attach*, to an email.

Attribute: A term used by Web authors. An attribute of an **HTML tag** controls how that tag operates. For example, in the HTML fragment ``, the required attribute **src** defines the image file to be displayed, and the optional attribute **alt** defines the text to be displayed when the [Mouse](#) moves over the image. Attributes can only exist within tags. See [HTML](#), [Tag](#).

Audio Card: See [Sound Card](#).

Audioconferencing or Audio Conferencing: A computer-based communications system that allows a group of computer users at different locations to conduct a "virtual conference" in which the participants can hear one another as if they were in the same room participating in a real conference. Unlike [Videoconferencing](#), audioconferencing systems do not allow the participants to see one another. See [Conferencing](#). See [Section 14.1.2, Module 1.5](#), headed *Audioconferencing: a synchronous communications medium*.

AUP: Abbreviation for [Acceptable Use Policy](#).

Authoring Package / Authoring Program / Authoring Tool: These terms describe **content-free** software packages that allow the teacher to develop interactive learning and teaching materials without having to have a detailed knowledge of a computer [Programming Language](#). These terms may also be applied to software packages used for creating Web pages, e.g. **Front Page** or **Dreamweaver**. See [Module 2.5](#), *Introduction to CALL authoring programs*. See [Module 3.2](#), *CALL software design and implementation*. See [Module 3.3](#), *Creating a World Wide Web site*. See [Content-Free](#).

Authorship Analysis Software: Authorship Analysis Software can help to identify authorship of texts. Such software has been used by literary and linguistic researchers for many years and is now widely used by security services in counter-terrorism activities.

Automatic Speech Recognition (ASR): A branch of [Human Language Technologies](#) devoted to the automatic processing of human speech. See [Speech Recognition](#). See [Section 4, Module 3.5](#), headed *Speech technologies*.

Avatar: A graphical representation of a real person, such as used in a [MUVE](#) or [MMORPG](#), a kind of "virtual world". Participants in a MUVE or MMORPG choose a name and a visual representation of the character that they wish to adopt as an inhabitant of the MUVE or player in the MMORPG. See [Section 14.2, Module 1.5](#), headed *Chat rooms, MUDs, MOOs and MUVEs*.

AVI: Abbreviation for Audio Video Interleave (or Interleaved). A file format for storing video recordings on a computer. See [ASF](#), [MOV](#), [MPEG](#), [RM](#), which are alternative video file formats. See [Media Player](#). See [Section 2.2.3.4, Module 2.2](#), headed *Video editing software*.

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B

Backup or Back Up: Used as a verb, *to back up* means to copy a [File](#) or [Folder](#) from your computer to another [Storage Device](#), e.g. a [CD-ROM](#), as a precaution in case your [Hard Drive](#) fails or is infected by a [Virus](#). A *backup*, used as a noun, or a *backup copy* describes a copy that you have made in this way. It is essential to back up new files and folders at regular intervals.

Bandwidth: The amount of data that can be sent from one computer to another through a particular connection in a certain amount of time, e.g. via a computer to the Internet and vice versa. The more bandwidth available, the faster you are able to access information. Bandwidth is usually measured in *kilobits per second* (Kbps) or *megabits per second* (Mbps). See [ADSL](#), [Broadband](#), [Kilobit](#), [Megabit](#), [Narrowband](#).

Baud: A unit of measurement at which data can be transferred (i.e. the *baud rate*), for example over a telephone line via a [Modem](#) or from a computer to an external device such as a [Printer](#). Rarely used nowadays, as transfer rates are normally expressed in kilobits per second ([Kbbs](#)) or megabits per second ([Mbps](#)).

BBS: Abbreviation for Bulletin Board System. See [Bulletin Board](#).

BECTA: British Educational Communications and Technology Agency, formerly known as NCET (National Council for Educational Technology), MESU (Microelectronics Education Support Unit) and the CET (Council for Educational Technology). BECTA is due to close down under the recently elected UK government (May 2010).

Binary: A number system using base 2 instead of the usual (human) base 10, which is normally referred to as the decimal system. Computers use base 2 because they can only recognise two values, 1 or 0. This is simulated electronically by using a device, such as a switch, which is either on (1) or off (0). All numbers are represented by combinations of ones and zeroes, thus the number 9 is represented as 1001, the right-most column being the units column and the other columns, moving from right to left, being 2, 4, 8. See [Hexadecimal](#).

Binary File: Strictly speaking all computer files are [Binary](#), consisting of a string of ones and zeroes, but the term *binary file* is often used to differentiate program files and data files from *text files*, which contain only unformatted printable ASCII characters. See [ASCII](#), [Text File](#).

BIOS: Acronym for Basic Input/Output System. This is a built-in ROM [Chip](#) on the [Motherboard](#) containing essential programs to manage the computer's input and output, which are loaded into memory during the boot process. See [Boot](#), [ROM](#).

Bit: Contraction of *binary digit*. A bit is the smallest measurement unit of computer memory or data transmission speed, e.g. via a [Modem](#). See the entry on [Measurement Units](#). See [Byte](#), [Kilobit](#), [Kilobyte](#), [Megabit](#), [Megabyte](#).

Bitmap: A computer graphic or image composed of thousands of individual dots or *pixels*, each pixel being stored as a number. The image is displayed by specifying the colour of each pixel. Bit-mapped graphics can be imported into other applications, e.g. a word-processor, but they cannot be edited within these applications. When bit-mapped graphics are resized they usually suffer a loss of sharpness, whereas *vector graphics* can be resized without such loss. See [BMP](#), [Pixel](#), [Resolution](#), [Vector Graphic](#).

Blackboard: A commercial [Virtual Learning Environment \(VLE\)](#) package, i.e. a software package that integrates online communications software with content software enabling teachers to create courses that are delivered partially or entirely via the Web. Courses using *Blackboard* might be mainly text-based, but can be enhanced with images, audio and video. See: <http://www.blackboard.com>. *Blackboard* and *WebCT* announced an agreement to merge in October 2005.

Blended Learning: This term normally refers to combining Internet-based *distance learning* with face-to-face tuition but it may also be used to describe combining offline ICT-based materials with more traditional materials, such as books, audiocassettes and videocassettes. See [Distance Learning](#), [E-learning](#), [Online Learning](#), [Virtual Learning Environment \(VLE\)](#). See [Section 4, Module 2.3](#) under the heading *Hybrid systems and blended learning*.

Blog: Contraction of the term [Weblog](#). A *blog* is essentially a website that contains discrete pieces of information posted by different users. New items of information are usually entered by contributors via a simple form, following the introduction of each new theme by a person who initiates the blog, and then submitted to the site, where they may be filtered by an administrator before being posted. A blog can contain news items, short essays, annotated links, documents, graphics, and multimedia. These posts are usually in reverse chronological order and often take the form of a journal or diary. A blog is normally accessible to any Internet user, but closed blogs may also be created, e.g. to document the thoughts and experiences of a group of students or to provide a means of communication between teachers and students following a particular course. The word *blog* is also used as a verb and [Blogger](#) is used as a noun to describe someone who blogs (see next entry). A blog is usually distinguished from an Internet [Discussion List](#) (also known as a [Forum](#)), but the latter can function in a similar way insofar as it typically allows any user to post messages to it that can be viewed via the Web. See [Moblog](#), [RSS](#), [Splog](#), [Wiki](#). See [Section 12, Module 1.5](#), headed *Discussion lists, blogs, wikis, social networking*. The ICT4LT website blog is at: <http://ictforlanguageteachers.blogspot.com>

Blogger: Normally used to refer to someone who *blogs*, i.e. who regularly writes *blogs*. Also used to describe a service that provides Web-based tools used by individuals to create a [Blog](#) or [Weblog](#). See <http://www.blogger.com>

Bluetooth: *Bluetooth* is a technical industry standard for radio technology which facilitates the transmission of signals over short distances (up to around 10 metres) between telephones, computers and other devices without the use of wires. For example, a Bluetooth-enabled mobile phone can communicate with a desktop computer for the purpose of synchronising data, such as an appointments diary.

BMP: Abbreviation for [Bitmap](#), a file format for storing images. This is the standard format used, for example, by *Windows Paint*. BMP image files occupy quite a lot of space compared to other formats. See [EPS](#), [GIF](#), [JPEG/JPG](#), [TIFF](#). See also [Section 2.2.3.1, Module 2.2](#), headed *Image editing software*.

Bookmark: A *bookmark* is a facility within a [Browser](#) that enables you to keep a record of Web pages that you have visited and may wish to visit again. Bookmarks are stored in a subdirectory of the [Windows](#) directory on your computer. In *Internet Explorer* bookmarks are known as [Favorites](#) (sic - spelt the American way), which is also the name of the subdirectory in which they are stored. Bookmarks are also used to mark positions in a *Word* document, i.e. positions to which you can jump from other points in the document by clicking on them with the [Mouse](#).

Boot: (verb) To start up a computer by loading the operating system into memory. The computer is regarded as *bootstrapping* itself into operation, i.e. picking itself up by its own bootstraps. The adjective *bootable* is often used to describe a backup disk that can be used to start a computer, e.g. when the hard disk fails or becomes corrupted for some reason. See [Operating System](#).

Bot: Short for *Robot*. See [Crawler](#).

bps: Abbreviation for *bits per second*, the smallest measurement of data transmission speed, e.g. via a [Modem](#). Computer people normally measure data transmission speeds in *Kbps*, meaning *kilobits per second*, or *Mbps*, meaning *megabits per second*. If you have a 56Kbps modem (which is slow by today's standards) it means that your modem can transmit at speeds up to 56,000 bits of information per second. See [Bit](#), [Kilobit](#), [Megabit](#).

Branching: The process of interrupting a sequence of instructions in a computer program in order to go to a different point. For example, in a CALL exercise the program might branch to one point if the learner is right but to another if the learner is wrong. This is a technique that is also used frequently in adventure games, mazes and simulations. See [Adventure Game](#), [Maze](#), [Simulation](#).

Broadband: A general term used to describe a high-speed connection to the Internet. Connection speed is usually measured in [Kbps](#) (kilobits per second) and [Mbps](#) (megabits per second). Typically, a home user will have a broadband connection using an ADSL telephone line running at 2Mbps to 8Mbps. Educational institutions ideally need a symmetric connection of at least 8Mbps to ensure smooth trouble-free connections to the Internet when large numbers of students are accessing the Internet all at once. See [ADSL](#), [Bandwidth](#), [ISDN](#), [Kilobit](#), [Leased Line](#), [Megabit](#). Contrasted with [Narrowband](#).

Browser: A software package installed on the hard disk of your computer that enables you to access and to navigate the [World Wide Web](#) - to "surf the Web" in colloquial terms. See [Section 3, Module 1.5](#), headed *Using a browser: navigating the Web*.

Buddy Learning: See [Tandem Learning \(Buddy Learning\)](#).

Bulletin Board: A type of forum on the Internet or an intranet, where users can post messages by email or via the World Wide Web for other users to read and respond to. Bulletin Board Systems (BBSs) have largely been replaced by other types of online systems for

communal communication, such as blogs, discussion lists and forums. See [BBS](#), [Blog](#), [Discussion List](#), [Forum](#).

Bug: Not a nasty insect but a logical fault in a computer program which causes it to malfunction. All computer programs contain bugs, some of which take years to come to light. It is rumoured that the term arose as a result of moths getting into the circuitry of an older [Mainframe Computer](#), causing it to break down. See [Debug](#), [Millennium Bug](#).

Burn: When data is written to a CD, for example using a CD-Read/Write drive, a pattern of microscopic dots is etched with a laser beam in a spiralling track on the CD surface. This is a process often referred to as "burning a CD". See [CD-ROM](#). See [Section 1.2.1, Module 1.2](#) for more information on CD-Read/Write drives.

Bus: Not the sort you get on to go into town. This is basically a set of parallel wires for connecting the [Central Processing Unit \(CPU\)](#) of a computer to all other input-output devices. Data can be transmitted in two directions, from and to the CPU.

Byte: A measurement of computer memory or disk capacity. A byte comprises 8 *bits*. See entry on [Measurement Units](#). See [Bit](#), [Gigabyte](#), [Kilobyte](#), [Megabyte](#),

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C

C&IT: Abbreviation for Communications and Information Technology. The same thing as ICT but the other way round! C&IT (Communications and Information Technology) is a peculiarly British term that arose in Higher Education as a result of the 1997 Dearing Report and never caught on outside the UK Higher Education environment. C&IT was incorporated in the name of the C&IT Centre for Modern Languages at the University of Hull, which in 2000 became the new name of the former CTICML (Computers in Teaching Initiative Centre for Modern Languages), which was established in 1989. The C&IT Centre (CTICML) was closed down in 2002. See [ICT](#).

CAA: Abbreviation for Computer Aided Assessment

Cache: The *cache* contains information stored by a Web [Browser](#) on your hard disk, so that you don't have to download the same material repeatedly from a remote computer. Browsers keep copies of all the Web pages that you view so that the pages can be redisplayed quickly when you go back to them. The cache is normally stored under *Windows* in a folder called *Temporary Internet Files*. This folder can become enormous over time and can cause your hard disk to become overloaded and then your computer may lock up. The cache needs to be emptied at regular intervals - which you can do manually or using utility software such as *Window Washer*. You can set the maximum size of the *Temporary Internet Files* folder, using the *Tools* menu in your browser.

CAD/CAM: Abbreviations for Computer Aided Design / Computer Aided Manufacturing. A process of drafting, designing and manufacturing with the aid of a computer. CAD enables the

user to manipulate drawings, including 3D drawings, and viewing them from a variety of angles. CAM is a general term for computer support during the manufacturing process.

CAI: Abbreviation for [Computer Assisted Instruction](#).

CALI: Acronym for Computer Assisted Language Instruction. A term which has now become almost obsolete, having been replaced by [CALL](#) in the 1980s. The term fell out of favour because it became associated with [Programmed Learning](#). See [CAI](#), [CALL](#), [CELL](#), [TELL](#).

CALICO: Acronym for Computer Assisted Language Instruction Consortium, a US-based professional association, founded in 1983. CALICO originally incorporated [CALI](#) into its name, but it now favours the term [CALL](#): <http://www.calico.org>

CALL: Abbreviation for Computer Assisted Language Learning. A term which came into favour in the early 1980s, replacing the older term CALI (Computer Assisted Language Instruction). Often associated (wrongly) with an old-fashioned approach to the use of ICT in language learning and teaching, but the leading professional associations, i.e. [EUROCALL](#), [CALICO](#) and [IALLT](#), interpret CALL as meaning the use of computers in the learning and teaching of foreign languages in the broadest sense, from the use of word-processors to the use of the Internet. See [CALI](#), [CELL](#), [TELL](#). See [Section 2, Module 1.4](#), headed *History of CALL*. For further information on the history of the use of computers in language learning and teaching, have a look at this very comprehensive History of CALL document in PDF format, compiled by Philippe Delcloque. It traces the History of CALL up to the year 2000 - click here: [History of CALL](#).

Camcorder: A portable video camera, capable of recording live motion video for later replay through a videocassette recorder (VCR), DVD player or computer. Videos produced by a camcorder can be *uploaded* to a computer via a [USB](#) cable or [Firewire](#), edited using special software such as *Movie Maker*, and played on a computer using [Media Player](#) software. See [Section 2.2.3.4, Module 2.2](#), headed *Video editing software*. See [Digital Camera](#), [Upload](#).

Can Do Statement: *Can do statements* are used as a means of describing what learners can typically do at different levels in a programme of studies, for example in the [Common European Framework](#) of Reference for Languages and in the syllabuses specified by examination boards such as the Asset Languages examination board. See [Section 2.2, Module 4.1](#), headed *The Common European Framework (CEFR) for Languages*. The ICT4LT website contains a *Word* document, [ICT Can Do Lists](#), which contains sets of can do statements relating to the ICT skills that language teachers should find useful.

Card: In computer jargon, a *card* is an electronic circuit board, usually one which can be slotted into your computer in order to fulfil a specialised function. See [Sound Card](#), [Video Card](#).

Case Sensitivity: Used to describe how a computer program, e.g. a [Browser](#), interprets upper and lower case letters, e.g. in the name of a program, the name of a folder stored on your computer, or the name of a website. Some computer programs may be *case sensitive*, in other words they make a distinction between capital letters and lower case letters so that, for instance, *Manchester* is perceived as different from *manchester*. Other programs may not make a distinction and perceive capital letters and lower case letters as one and the same. Be

especially careful when typing the names of websites, as case sensitivity may be crucial and you may not be able to find the website if you fail to type capital letters in the right places.

Cathode Ray Tube (CRT): An older type of computer [Display Screen](#) or [Monitor](#), in which beams of high-voltage electrons are fired at a screen causing thousands of Red, Green and Blue ([RGB](#)) dots to glow in different combinations and intensities, thus producing the full-colour image displayed on the screen. Cathode Ray Tubes are also used in older domestic TV sets. Newer types of display screens are of the [LCD](#) or [TFT](#) flat panel type - like many modern TV sets. They are much lighter, use less electricity and take up less room on a desktop. See [Section 1.1.2, Module 1.2](#) for further information and illustrations of different types of display screens.

CBT: Abbreviation for [Computer Based Training](#).

CD-ROM: Abbreviation for Compact Disk Read Only Memory. A CD-ROM is an [Optical Disk](#) on to which data has been written via a laser - a process often referred to as "burning a CD": see [Burn](#). A CD-ROM looks much the same as an audio CD, but can contain text, sound, pictures and motion video. Once written, the data on a CD-ROM can be fixed and rendered unalterable, hence the term *read-only* - **but** modern computers are usually equipped with a read/write CD-ROM drive that enables new material to be stored on a special kind of CD-ROM: CD-R (recordable) or CD-RW (rewriteable). It is worthwhile investing in a read/write CD-ROM drive for making backups and storing your own multimedia materials. Blank CD-Rs or CD-RWs can be bought from computer media suppliers at a relatively low cost. You can store data on CD-Rs using a read/write drive, adding to it until it is full, and then you can format the CD-ROM so that it is fixed and can be read by a standard CD-ROM drive. You can also store data on CD-RWs in the same way, but these discs can only be read by a read/write CD-ROM drive. The advantage of CD-RWs is that they can be erased and used over and over again, but now that the cost of blank CD-Rs has fallen to such a low level it is questionable how useful CD-RWs are. See [Combination Drive](#), [Digital Video Disk \(DVD\)](#). See [Section 1.2.1, Module 1.2](#) for more information on CD-ROMs and CD-ROM drives. See also [Module 2.2, Introduction to multimedia CALL](#).

CEF: Abbreviation for [Common European Framework](#).

CEFR: Abbreviation for the Common European Framework of Reference (CEFR) for Languages. Often shortened to **CEF** (see previous entry). See [Common European Framework](#).

CELL: Acronym for Computer Enhanced Language Learning. An alternative term to CALL that aims to stress the role of the computer as a *tool* for the learner, making it less central in the learning process. See [CALI](#), [CALL](#), [TELL](#).

Central Processing Unit (CPU): Also known as the [Central Processor](#). In a modern computer the CPU is a single microprocessor [Chip](#) or [Microchip](#), an integrated circuit which carries out information processing and calculations. In essence, the CPU is the computer's "brain". See [Clock Speed](#), [Microprocessor](#), [Motherboard](#).

Central Processor: See [Central Processing Unit \(CPU\)](#).

CERN: Abbreviation for Centre Européen pour la Recherche Nucléaire, the European particle physics laboratory and the birthplace of the *World Wide Web*, which was invented there by Tim Berners-Lee.

CGI Script: A term used by Web authors. CGI is an abbreviation for Common Gateway Interface. A program residing on a [Web Server](#), usually in a directory called **cgi-bin**, which processes data from an HTML form. CGI scripts can be written in any programming language suitable for handling text data, but Perl (<http://www.perl.com>) is the most popular scripting language.

Character User Interface (CUI): A *Character User Interface* describes a way in which a computer user communicates with a computer by entering commands as *text*, i.e. in order to run programs and to carry out other operations such as copying information from one [Folder](#) to another, deleting files, etc. Contrasted with a [Graphical User Interface \(GUI\)](#), e.g. *Microsoft Windows*, which allows the user to carry out such operations by clicking on *icons*, opening and shutting *windows* and dragging and dropping with a *mouse*. [MS DOS](#) and [Unix](#) are examples of CUIs. See [Icon](#), [Mouse](#), [Operating System](#), [Window](#), [Windows](#).

Chat Room: A *synchronous*, mainly text-based communication facility, offering a Web-based environment where people either drop into or arrange to meet and *chat* at specific times. You type in your text online, it is seen almost immediately by others online at the same time who respond online in real time. When used for language learning chat rooms can put a great deal of pressure on students by requiring them to read fairly rapidly and to write, also fairly rapidly, with little time to reflect on the quality of the language used. A degree of caution is advised when joining a chat room. Some have been used for sinister purposes. See [Synchronous](#). [Section 14.2, Module 1.5](#), headed *Chat rooms, MUDs, MOOs and MUVes*.

Chip: Short for [Microchip](#) or [Silicon Chip](#).

Client: A computer that receives services from another computer. A stand-alone computer on your desk which you use to browse the Web is a *client*, and the computers from which World Wide Web files are downloaded to your computer are *servers*. Similarly, a computer (also known as a workstation) connected to a [Local Area Network \(LAN\)](#) is a *client* that can receive information from and send information to the *server* that controls the LAN. See [Browser](#), [Server](#), [Web Server](#).

CLIL: Acronym for [Content and Language Integrated Learning](#).

Clipart or Clip Art: A collection of image files that can be embedded or inserted into Web pages, word-processed documents, *PowerPoint* presentations, etc. Some clipart images are copyright-free or in the public domain but others may be subject to a licence fee if you wish to make them public, e.g. on a website. See [Copyright](#).

Clipboard: A temporary storage area in a computer's memory. It may be used, for example, to store text that you are in the process of copying and pasting from one section of a word-processed document to another section in the same document or to another document. You should find a *clipboard viewer* program on your computer, which enables you to see what is currently being temporarily stored in the clipboard.

Clock Speed: The speed of a computer's [Central Processing Unit \(CPU\)](#), which is normally expressed in [MegaHertz](#) (= one million cycles per second) or [GigaHertz](#), (= 1000 MegaHertz). This figure represents the number of instruction cycles the processor carries out each second. In simple terms this indicates how fast the computer runs - how powerful it is. Computers that run at 500 MegaHertz (500MHz) used to be considered fast, but modern computers now run at over one GigaHertz (1GHz). See [Hertz](#), [Microprocessor](#).

Cloze Procedure: Note the spelling: **Cloze** not **Close** - which is deliberate and was invented by Wilson Taylor: Taylor W.L. (1953) "Cloze procedure: a new tool for measuring readability", *Journalism Quarterly* 30: 415-433. *Cloze procedure* was originally conceived as a tool for measuring the readability of a text or a learner's reading comprehension level and derives from the gestalt psychology term "closure", whereby people tend to complete a familiar but incomplete pattern by "closing" the gaps. In Cloze tests or exercises every nth word (usually 5th to 7th) or a certain percentage of a text is blanked out and the learner has to fill in the blanks with a suitable word, but not necessarily the original word that appeared in the text. In the days before computers the words had to be blanked out by hand, but now a computer can do the job in seconds, varying the word deletion interval. Cloze procedure is still widely used in language learning and teaching - including [Total Cloze](#), where the whole text is blanked out - and figures in numerous CALL programs, many of which are available in suites of text manipulation programs such as **Fun with Texts**, **The Authoring Suite**, and also in activities found at various World Wide Web sites. See [Section 4.6, Module 1.3](#), headed *Cloze procedure*. See [Section 8, Module 1.4](#), headed *Text manipulation*. See [Gap-filler](#), [Text Manipulation](#).

CMC: Abbreviation for [Computer Mediated Communication \(CMC\)](#).

CMS: Abbreviation for *Content Management System*, a software package that makes it possible for non-technical users to publish content (text, images, etc) on a website. Also stands for [Course Management System](#), a type of [Virtual Learning Environment \(VLE\)](#).

CMY: Abbreviation for Cyan Magenta Yellow. The scheme used in colour printing, where inks of the subtractive primary colours Cyan, Magenta and Yellow are combined to produce millions of other colours. Most colour printers also have a black ink cartridge, both for monochrome printing and to produce a true black in colour printing. See [Additive Colour](#), [RGB](#), [Subtractive Colour](#).

CODEC: Short for **COmpressor / DECompressor** or **COder / DECoder**. A CODEC is software that is used to compress or decompress a digital audio or video file. CODECs are additional pieces of software that operate in conjunction with different media players, and certain types of audio and video recordings will only play back if the relevant CODEC is running in conjunction with the media player that you are using. A CODEC can consist of two components, an encoder and a decoder. The encoder compresses the file during creation, and the decoder decompresses the file when it is played back. Some CODECs include both components, while other CODECs include only one. CODECs are used because a compressed file takes up less storage space on your computer or on the Web. When you play an audio or video file in your media player it will use a CODEC to decompress the file. See [Section 2.2.1, Module 2.2](#), headed *Media players*.

Collaborative Writing: A process that involves the creation and editing documents using [Web 2.0](#) tools designed for use by multiple authors, e.g. **Google Documents** (see [Google](#)) or

Zoho Writer: <http://writer.zoho.com>. Such tools look, act and feel like normal word processors, but simplify the process of sharing and viewing documents.

Colour Depth: The number of colours that can be displayed at any one time on a computer [Display Screen](#). Modern computers can display a range of millions of colours, producing very high quality images. See [Resolution](#).

Combination Drive: A [Disk Drive](#) that is capable of reading and writing to [CD-ROMs](#), audio CDs and [DVDs](#).

Common European Framework (CEF): The short name of the Common European Framework of Reference (CEFR) for Languages. This is a scheme developed by the Council of Europe, dating back to the 1970s, with the aim of providing a basis for the mutual recognition of language qualifications, thus facilitating educational and occupational mobility. It is increasingly used in the reform of national curricula and by international consortia for the comparison of language certificates. See [Section 2.2, Module 4.1](#), headed *The Common European Framework (CEFR) for Languages*.

Comms: Short for *communications*, as in Information and Communications Technology (ICT). Used to refer to ways in which computer systems communicate with one another, e.g. via a cable, a telephone line, satellite or wireless.

Compatibility: Pieces of hardware and/or software which are capable of being used together are described as *compatible*.

Compiler: A program which converts programs written in a high-level *programming language*, i.e. as used by professional human programmers, into [Machine Code](#), a language that can be "understood" by a computer. A *compiler* produces a *binary executable* program file after the programmer has completed the programming. Program files on personal computers can be recognised by their three-letter **.exe** or **.com** [Extension](#) after their filenames, e.g. **winfile.exe**. See [Binary File](#), [Executable](#), [Interpreter](#), [Programming Language](#).

Compression: A technique which reduces the amount of space required to store data, e.g. as used to reduce the amount of space needed to store an image, an audio recording, or a video recording.

Computer Aided Assessment (CAA): See [Module 4.1](#), *Computer Aided Assessment (CAA) and language learning*.

Computer Assisted Instruction (CAI): A term used mainly in the business world. Implies a top-down, instructor-centred approach to teaching with computers and is closely associated with [Programmed Learning](#). See [CALI](#).

Computer Based Training (CBT): A term used mainly in the business world. Implies a top-down, trainer-centred approach to teaching with computers and is closely associated with [Programmed Learning](#).

Computer Mediated Communication (CMC): *Computer Mediated Communication* is used as a term describing the use of the Internet as a means of fostering teaching and learning,

especially the use of [Email](#), [Conferencing](#) and [Social Networking](#). See the entry under [Web 2.0](#). See [Section 14, Module 1.5](#), headed *Computer Mediated Communication (CMC)*.

Computer Program: A set of instructions that the computer carries out in sequence to perform a given task. Programs are written in English-like programming languages (e.g. C, Pascal), and are then converted into binary machine instructions via a compiler or an interpreter. See [Compiler](#), [Interpreter](#), [Programming Language](#).

Concept Keyboard: An overlay or replacement for the traditional computer [Keyboard](#). Concept keyboards are useful for small children or learners with special needs: for example, offering pictures or symbols as an alternative to the alphabetic keyboard.

Concordance Program: A *Concordance Program* (also known as a *Concordancer*) operates on a body of texts (a corpus) and is commonly used for compiling glossaries and dictionaries, e.g. by arranging every word in the text alphabetically or in order of frequency, together with its context. Concordance programs also play an important role in language learning and teaching, for example: (i) the teacher can use a concordance program to find examples of authentic usage to demonstrate a point of grammar, typical collocations, etc; (ii) the teacher can generate exercises based on examples drawn from a variety of corpora; (iii) language learners can work out rules of grammar and usage for themselves by searching for a particular key word in context (KWIC). Concordance programs form the basis of a methodology pioneered by Tim Johns, University of Birmingham, which he described as Data Driven Learning (DDL). See [Module 2.4](#), *Using concordance programs in the Modern Foreign Languages classroom*, and [Module 3.4](#), *Corpus linguistics*. See also [Data Driven Learning](#).

Concordancer: See [Concordance Program](#).

Condenser Microphone: This type of microphone is probably the best type to use in multimedia CALL programs as it provides a stronger signal when the learner is recording his/her own voice. Condenser microphones work only with sound cards that provide power to the microphone. Also known as a *powered microphone*. The other main type of microphone is known as a [Dynamic Microphone](#), which provides a softer signal and may result in faint playback. See [Microphone](#), [Sound Card](#). See [Section 1.2.4, Module 1.2](#) for further information on microphones. See also [Module 2.2](#), *Introduction to multimedia CALL*.

Conferencing: Computer *conferencing* is a development of [Email](#) designed to support many-to-many communication, whereby computer users in different locations can take part in a "virtual conference". A conference usually consists of a group of participants who have a common interest in the conference subject matter. Computer conferencing software enables the organisation, storage, structuring and retrieval of messages. Messages may be organised under different topics, by author or by date of posting. [Asynchronous](#) conferencing may take place via a [Blog](#), [Discussion List](#), [Forum](#) or [Wiki](#); see [Section 12, Module 1.5](#), headed *Discussion lists, blogs, wikis, social networking*. [Synchronous](#) conferencing takes place in "real time", e.g. within a [Chat Room](#). See also [Audioconferencing](#), [Videoconferencing](#).

Content and Language Integrated Learning (CLIL): A term used to describe learning a subject such as history or geography through the medium of a foreign language and thereby learning the foreign language at the same time.

Content-Free: Used to describe a computer program which is supplied as an "empty shell", i.e. without content such as texts, images, audio recordings, or video recordings. The user (i.e. the teacher) is expected to provide the content, and the program then enables content to be manipulated in various ways, for example to set up exercises and activities for different groups of learners. See [Authoring Package](#).

Content Management System (CMS): See also [Course Management System](#).

Continuing Professional Development (CPD): Further study relevant to one's profession that most bodies encourage their members to undertake. This can take the form of seminars, research, training courses, etc. The materials at the ICT4LT website can serve the purposes of CPD.

Cookie: A piece of information stored on a user's computer by a Web [Browser](#) when the user visits a website for the first time. Websites use cookies to recognise users who have previously visited them. The next time that the user visits that site, the information in the cookie is sent back to the site so that the site can tailor what it presents to the user, e.g. tastes in music or shopping habits.

Copyright: New technologies have raised all kinds of new issues relating to copyright - mainly because it has become so easy to copy materials from a variety of digital sources. We have produced a Web page at the ICT4LT site: [General guidelines on copyright](#).

Course Management System (CMS): A type of [Virtual Learning Environment \(VLE\)](#), e.g. [Moodle](#).

Courseware: A set of computerised lessons, exercises, tests and reference material.

CPD: Abbreviation for [Continuing Professional Development](#).

CPU: Abbreviation for [Central Processing Unit](#).

Crash: A term describing what happens to hardware or software when it suddenly fails to work properly. The commonest symptom of a crash is the "frozen screen", i.e. when the keyboard and/or mouse goes dead with the result that nothing can be typed and the [Cursor](#) cannot be moved around the screen. Modern computers typically crash several times a day. Most crashes are not serious and are simply the result of faulty programming - i.e. most programming. Some kinds of crashes can be symptomatic of more serious problems, however, and should be investigated if they keep occurring. Operating systems themselves, e.g. *Microsoft Windows*, are particularly prone to crashes. See [Operating System](#), [Windows](#).

Crawler: A *crawler* is a program that searches the Web for new links, new content and changes in order to keep [Search Engine](#) results up to date. A crawler may also be called a *bot* (short for *robot*) or *spider*. Crawlers within search engines perform a useful indexing function, but there are also crawlers or bots that have more sinister motives, such as gathering addresses to be targeted by spammers. See [Spam](#), [Spambot](#), [Spyware](#).

CRT: Abbreviation for [Cathode Ray Tube](#).

Ctrl Key: The *Ctrl* keys can be found on either side of the space bar on a computer keyboard. They are used in conjunction with other keys as "shortcuts" for operations that would normally be carried out with a [Mouse](#), e.g. Ctrl + S will save a file that you are working on. It is also possible to program the Ctrl keys to carry out operations that you specify yourself, e.g. for typing foreign characters. See [Section 5, Module 1.3](#), headed *Typing foreign characters*.

CUI: Abbreviation for [Character User Interface](#).

Cursor: The pointer which appears on screen and is controlled by a *pointing device*, such as a *mouse*. The *cursor* usually has the shape of an arrow, but can also take other shapes: e.g. an *I-beam* in a document, an hourglass whilst an operation is under way, or the graphic image of a hand over a [Hyperlink](#). See [I-Beam](#), [Mouse](#), [Pointing Device](#).

Cyberspace: William Gibson coined this phrase in his novel *Neuromancer*, first published in 1984 - some years before the World Wide Web was invented: "Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding..." Today the word *cyberspace* is used to refer to the world of the Internet, more specifically the World Wide Web. See [Internet](#), [World Wide Web](#).

Cybersquatter: A term normally used to describe someone who registers the name of a popular Web address - usually a company name - with the intent of selling it to its rightful owner at a high price. Cybersquatters also watch out for registered domain names that become available when the owner has no further use for them, goes bankrupt, or simply forgets to pay their registration renewal fees. This can lead to perfectly harmless and legitimate sites being transmogrified overnight into sites containing offensive material. See Graham Davies's article on "Dodgy links": <http://www.camsoftpartners.co.uk/DodgyLinks.htm>. See also [Linkrot](#).

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D

Data: Strictly speaking the plural of "datum", but now usually considered as a collective noun in the singular, with the plural form "data items" or "items of data". Data is information in a form which can be processed by a computer. It is usually distinguished from a *computer program*, which is a set of instructions that a computer carries out. Data can be text or sets of figures on which a computer program operates. See [Computer Program](#).

Database: A structured collection of data that can be used for a variety of purposes. Databases are usually stored on a [Hard Disk](#) inside your computer, on a CD-ROM, or at a website. A database may contain data relating to staff employed by a company or to students at an educational institution. Databases can also contain bibliographies, glossaries, vocab lists, etc. In order to set up and manage a database you need a database program such as [Microsoft Access](#).

Data Driven Learning (DDL): An approach to language learning pioneered by Tim Johns, University of Birmingham, whereby learners of a foreign language gain insights into the language that they are learning by using concordance programs to locate authentic examples of language in use. In DDL the learning process is no longer based solely on the teacher's initiative, his/her choice of topics and materials and the explicit teaching of rules, but on the learner's own discovery of rules, principles and patterns of usage in the foreign language. In other words, learning is driven by authentic language data. See [Concordance Program](#). See [Module 2.4](#), *Using concordance programs in the Modern Foreign Languages classroom*, and [Module 3.4](#), *Corpus linguistics*.

Data Projector: A device that enables the image displayed on a computer screen to be projected onto a wall screen or [Interactive Whiteboard](#).

DBMS: Abbreviation for Database Management System. An [Application](#) enabling the storage, modification, retrieval, and querying of data in a [Database](#).

DDL: Abbreviation for [Data Driven Learning](#).

Debug: To test a program and remove all the bugs. Permanent bugs that defy eradication are often referred to ironically as "features". See [Bug](#).

Default: A setting or value automatically assigned to a computer program or device in the absence of a choice made by the user. When you use a program for the first time, e.g. a [Browser](#) or [Word-processor](#), all the settings will have been preset to their *default values* - many of which can be changed to settings that you prefer, e.g. the *default* font type and size. The term *default route* is used in connection with Computer Assisted Language Learning, meaning the route that the teacher believes to be optimal for the learner to follow in a computer program or suite of programs - but which can be overridden by the learner if s/he wishes to follow his/her own route: see Section [3.4, Module 2.1](#), headed *Modes of teaching and learning*.

Defrag: Short for *defragment*. A process run by a defragging program (usually supplied as part of *Microsoft Windows*) whereby parts of data files scattered around different segments of a computer hard disk are gathered together into continuous file segments. This makes applications run more efficiently and also frees up disk space.

Desktop: The main workspace in [Windows](#), an electronic *desktop* which is displayed as the opening screen when *Windows* is started. The electronic desktop is a metaphor for the top of a real desktop, where jobs to be done are laid out in different folders, symbolised by *icons*, i.e. small images. Users open and work with programs by clicking on *icons* on the desktop, and they can also store shortcuts to documents or websites there. See [Icon](#).

Desktop Computer: A desktop computer is one that is designed to sit permanently on a desk, as opposed to portable computers, e.g. [Laptop Computer](#) [Notebook Computer](#) and [Netbook](#), all of which can easily be carried around.

Desktop Publishing (DTP): An [Application](#) for laying out text, graphics and pictures in order to produce a professional-looking publication. Most modern word-processors can now achieve what older DTP packages were capable of producing. Examples of DTP applications are *QuarkXpress* and *PageMaker*, which have probably become too complex and technical for

the inexperienced user and are now aimed at the professional graphic designer or layout artist. See [Word-processor](#).

Device Driver: [Software](#) that enables a computer to communicate with a hardware device such as a [Mouse](#), [Printer](#) or [Scanner](#). Hardware devices must each have the proper *device driver* installed in order to enable them to run. Most hardware devices are supplied with small programs that are installed onto your hard drive when you use them for the first time and tell the computer how to communicate with that specific device.

Diacritic: A mark such as an acute, grave or circumflex accent, a cedilla, or an umlaut, which is added to a letter to give it a special phonetic value. Characters with diacritics can be typed on standard computer keyboards by using the [Alt Key](#) in combination with a sequence of numbers. [Section 5, Module 1.3](#), headed *Typing foreign characters*.

DIALANG: See [Section 2.2.1, Module 4.1](#), headed *The DIALANG diagnostic testing project*.

Dial-up Modem: An older type of [Modem](#) that connects a computer to the [Internet](#) via a standard telephone line. Typically a *dial-up modem* connects to the Internet at a very slow data transmission speed of only 56 Kbps, whereas a modern [Broadband](#) modem connects to the Internet at 512 Kbps or much higher. Because dial-up access uses normal telephone lines, the quality of the connection is often poor. See [Kbps](#).

Digital: The essential meaning of this term is "based on numbers". The modern computer is a typical example of digital technology, so are CD-ROMs, DVD-ROMs, audio CDs and video DVDs, on which numbers are coded as a string of tiny pits pressed into a plastic disc. When a CD audio recording or a DVD video recording is played back, using equipment incorporating a laser as a reading device, the exact numeric values are retrieved and converted into sound or images. Digital recording is relatively free from noise and interference and gives a very high quality of reproduction. Data (including audio and video) or programs stored on [CD-ROM](#) or [DVD](#) can be read by a computer in a similar way. There are two major benefits to digital technology. Firstly, digital technology - because it is based on numbers - is more precise. Secondly, digital technology is becoming cheaper and more powerful. Digital technology is now used in radio and TV broadcasts. Digital recordings made from any source (audio- or videocassettes, television, radio, Internet, satellite TV, microphone or [Camcorder](#)) can be edited easily, then stored on a computer's [Hard Disk](#), [CD-ROM](#), [DVD](#), [Flash Drive](#), [Memory Stick](#), etc. They can be copied without quality loss and, more significantly, can be used by more than one learner at the same time. See the contrasting term [Analogue](#).

Digital Camera: A camera used for taking still photographs - but some digital cameras can also record short sequences of moving images. A digital camera looks much the same as an ordinary camera but stores photographs in electronic format so that they can be *uploaded* computer via a [USB](#) cable to a computer. The more expensive digital cameras achieve better results than can be achieved by using an ordinary camera and a *scanner*. See [Camcorder](#), [Scanner](#), [Upload](#).

Digital Video Disk or Digital Versatile Disk (DVD): A *Digital Video Disk* or *Digital Versatile Disk* is an [Optical Disk](#) that is capable of storing high-quality video as well as other forms of data, e.g. programs, text, still pictures and graphics. It is possible that DVDs will completely replace CD-ROMs in the not-too-distant future. DVDs can only be read or written to on multimedia computers equipped with a DVD drive or [Combination Drive](#). See [CD-](#)

ROM. See [Section 1.2.5, Module 1.2](#) for more information on DVDs and DVD drives. See also [Module 2.2, Introduction to multimedia CALL](#).

Digitise / Digitize: To translate into a digital form, i.e. numbers. For example, scanners *digitise* images by translating them into *bitmaps*, i.e. thousands of individual dots or *pixels*. It is also possible to digitise sound and video by [Sampling](#) at discrete intervals. To digitise sound, for example, a device measures a sound wave's characteristics many times per second and converts them into numeric values which can then be recorded. See [Analogue](#), [Bitmap](#), [Digital](#), [Pixel](#).

Directory: A location on a disk containing a group of *files* and *subdirectories* grouped together for organisational purposes. The term is used synonymously with [Folder](#), which has become a more common term since the introduction of [Windows](#). Subdirectories are sometimes referred to as "child directories" of the "parent directory". The topmost directory on a computer, which is the parent of all directories on the disk, is known as the *root directory* and usually has the *pathname* C:\. See [File](#), [Pathname](#), [Root Directory](#).

Disc: See [Disk](#).

Discussion List: An electronic *discussion list* - also known as a [Forum](#) - is a way of sharing emails with the members of a group of people with a common interest. Members of a discussion list usually have to subscribe to the list by sending a message by email to the list server (the computer which manages the list), and thereafter they receive copies of all other messages sent to the list by other subscribers. The list administrator has control over list membership and, if necessary, the content of messages. The archives of discussion lists, i.e. previously posted messages, are usually made available at a website. See also [Blog](#), [Bulletin Board](#), [Forum](#), [Newsgroup](#), [Wiki](#). See [Section 12, Module 1.5](#), headed *Discussion lists, blogs, wikis, social networking*.

Disk or Disc: Usually spelt "disk" - an abbreviation of *diskette*. A *disk* may take several different forms and is used for the permanent or temporary storage of data that can be read by a computer. See [CD-ROM](#), [DVD](#), [Floppy Disk](#), [Hard Disk](#), [Storage Device](#).

Disk Drive: A device within or connected to a computer that enables data to be read from and written onto a disk. See [CD-ROM](#), [Disk](#), [DVD](#), [Floppy Disk](#), [Hard Disk](#). See [Section 1.1.5, Module 1.2](#) for further information on disk drives.

Diskette: The full form of the word [Disk](#).

Display Screen: The screen on which output from a computer is displayed. Also referred to as a [Monitor](#). Older computers used a [Cathode Ray Tube](#), which is essentially the same as that used in older domestic TV sets. Newer types of display screens are of the [LCD](#) or [TFT](#) flat panel type - like many modern TV sets. They are much lighter, use less electricity and take up less room on a desktop. See [Section 1.1.2, Module 1.2](#) for further information and illustrations of different types of display screens.

Disruptive Technology / Disruptive Innovation: Terms that appear in Christensen C. (1997) *The innovator's dilemma*, Cambridge, Massachusetts: Harvard Business School Press and Christensen C. & Raynor M. (2003) *The innovator's solution*, Cambridge, Massachusetts: Harvard Business School Press. "A disruptive technology is a new technological innovation,

product, or service that eventually overturns the existing dominant technology in the market, despite the fact that the disruptive technology is both radically different from the leading technology and that it often initially performs worse than the leading technology according to existing measures of performance." See http://en.wikipedia.org/wiki/Disruptive_technology

Distance Learning: A form of learning that takes place where the teachers and the students are in physically separate locations. *Distance learning* can be either [Asynchronous](#) or [Synchronous](#). Traditional distance learning includes the mailing of printed materials, correspondence between teachers and students in writing, contact by telephone, and radio and television broadcasts. More recently, distance learning has included [E-learning](#) and/or [Online Learning](#). The British Open University (OU) is one of the oldest established distance-learning establishments to have embraced existing technologies, i.e. radio and television, when it was set up in the 1960s. The OU continues to embrace new distance learning technologies as they become more widely available: <http://www3.open.ac.uk/study/explained/distance-learning.shtml>. See [Blended Learning](#), [Virtual Learning Environment \(VLE\)](#).

Dithering: The technique of combining dots of primary colours to give the appearance of intermediate colours. Dots are combined in a square area, known as a *dither matrix*, to simulate a dot of an intermediate colour.

DNS: Abbreviation for [Domain Name Server](#).

DOC: The standard three-letter [Extension](#) to a document file produced by *Microsoft Word*.

Domain Name: A unique name that identifies a [Website](#). A domain name can be purchased from and registered by a *domain name* registration company, e.g. our name **ict4lt.org** was purchased from *Amenworld*: <http://www.amenworld.com>. Such companies also provide a service that will check if a required name is available for purchase. Domain names always have two or more parts, separated by dots. The part on the left side is specific and the one on the right is more general. Our website's domain name is divided into two parts, **ict4lt** and **org**, the former part being our project name and the latter indicating what kind of body we are: **org** = "organisation". Our domain name is therefore **ict4lt.org**. Universities' domain names in the UK always end in **ac.uk** = "academic UK". UK-based companies can often be identified by **co.uk**. See [Section 6.1, Module 3.3](#), headed *Domain names*. See [Host Name](#).

Domain Name Server (DNS): See [Domain Name](#), [Name Server](#).

DOS: Short for [MS DOS](#).

Dot Matrix Printer: An older type of printer that works by firing sets of pins in different combinations at an ink ribbon located against a sheet of paper. Such printers produce text that looks "ragged". Laser printers and ink-jet printers are now much more common.. See [Printer](#).

Download: To transfer a copy of data, a computer program, a text file, an image file, a sound file or video file from one computer to another computer. This is the main means of obtaining data and programs from the World Wide Web. See [Upload](#), [World Wide Web](#).

Download Accelerator: Downloading large files from the Web can be tedious. If you connect to the Internet via a slow [Dial-up Modem](#) then you might as well make yourself a cup

of coffee or take the dog for a walk while you are waiting. You may, however, find that the download process has been timed out or crashed before it has been completed. A *download accelerator* is therefore essential if you use a dial-up modem, and it can help manage and speed up the process of downloading if you have a [Broadband](#) connection to the Internet. See Section [3.5.1, Module 2.3](#), headed *Delivering and receiving audio and video over the Internet*.

dpi: Abbreviation for **Dots Per Inch**. A measure of the of the quality of output, i.e. the number of dots per square inch produced by a *printer* or *scanner*, also referred to as its *resolution*. A resolution of at least 300 dpi is considered reasonable for the production of high-quality output by a printer and 1200 dpi by a scanner, but modern printers and scanners can produce many more dots per square inch. The resolution of a scanner may also be expressed by two numbers. These are mostly the same, e.g. 1200 x 1200, but you may also see 1200 x 2400, which means that the number of horizontal dots is different from the number of vertical dots. See [Printer](#), [Resolution](#), [Scanner](#).

DTP: Abbreviation for [Desktop Publishing](#).

DVD: Abbreviation for [Digital Video Disk](#).

Dynamic Microphone: This type of microphone is often used in multimedia CALL programs when the learner has to record his/her own voice. The main drawback of this type of microphone is that it requires considerable amplification and may result in very faint playback on some systems. This type of microphone is often popularly referred to as a *karaoke microphone*. The other main type of microphone, the [Condenser Microphone](#), provides a stronger signal. See [Microphone](#), [Sound Card](#). See [Section 1.2.4, Module 1.2](#) for further information on microphones.

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E

ECDL: Abbreviation for [European Computer Driving Licence](#).

E-learning: *E-learning* (electronic learning) has become a buzzword in recent years, but it is widely misunderstood and often associated with a limited view of e-learning. Ask a dozen people what they understand by e-learning and most will probably say that it involves using a computer to access materials on the [Web](#) or to follow a distance-learning course using a [Virtual Learning Environment \(VLE\)](#). Here is the definition given in the UK government's consultation document *Towards a unified e-learning strategy*, July 2003:

If someone is learning in a way that uses Information and Communications Technologies (ICTs), they are using e-learning. They could be a pre-school child playing an interactive game; they could be a group of pupils collaborating on a history project with pupils in another country via the Internet; they could be geography students watching an animated diagram of a volcanic eruption their lecturer has just downloaded; they could be a nurse taking her driving theory test online with a reading aid to help her dyslexia - it all counts as e-learning.

In other words, this is a catch-all definition relating to the use of ICT in teaching and learning: if you are using a computer to learn something then you are using e-learning. The whole of the ICT4LT website is, therefore, in this sense all about e-learning in the context of teaching and learning foreign languages, and this is one reason why you will not find a section headed specifically *E-learning* in the ICT4LT modules. Because of a lack of agreement on what e-learning is all about, it probably makes sense to use the term [Online Learning](#) when talking generally about distance learning on the Internet and to use [CALL](#) as a catch-all term for the use of ICT in language teaching and learning. See also [Blended Learning](#), [Distance Learning](#), [Virtual Learning Environment \(VLE\)](#). See the entry under **E-learning** in [Section 1, Module 1.1](#), headed *Definitions of terms*.

Electronic Mail: See [Email](#).

Electronic Whiteboard: More commonly referred to as an [Interactive Whiteboard](#) these days.

Email: Contraction of Electronic Mail. A system for creating, sending and receiving messages via the [Internet](#). In order to send and receive email messages you have to register with an [Internet Service Provider \(ISP\)](#) that provides an *email service* and have *email software* such as [Outlook](#) or [Eudora](#) installed on your computer. Many ISPs also offer a [Webmail](#) facility, which provides an alternative means of creating, sending and receiving email messages using your Web [Browser](#). See [Section 14, Module 1.5](#), headed *Computer Mediated Communication (CMC)*.

Encryption: A system of coding that helps prevent access to private information on computer networks or on the Web.

End-user: The final user of a piece of [Software](#) or [Hardware](#), i.e. the individual person for whom the product is created, as distinct from the people who create and produce the product.

EPS: Abbreviation for Encapsulated Postscript. A file format that is used mainly for printing images on a [Postscript Printer](#). See also [BMP](#), [GIF](#), [JPEG/JPG](#), [TIFF](#), which are other image file formats.

Error Diagnosis: A feature of [CALL](#) programs whereby the computer attempts to diagnose the nature of errors the learner makes and to branch to remedial exercises. This approach to CALL appears to have fallen out of fashion in recent years. See [Response Analysis](#), a term with a similar meaning.

Eudora: A popular [Email](#) program. Available from <http://www.eudora.com>

EUROCALL: The Europe-based professional association for CALL, founded in 1986: <http://www.eurocall-languages.org>

European Computer Driving Licence (ECDL): An internationally recognised qualification in ICT: <http://www.bcs.org/server.php?show=nav.5829>. See also the **ECDL for Education**, which is designed specifically to help teachers, support staff and ICT coordinators develop practical computing skills for teaching and learning in the classroom and leads to an internationally recognised level of certification: <http://www.educatorsecdl.com>

Excel: The name of a [Spreadsheet](#) program forming part of the [Microsoft Office](#) suite of programs.

Executable: This describes a program which has been converted (compiled) into binary machine code. If you double-click on an executable program name in *Windows Explorer*, it will immediately *execute* itself - i.e. run. Executables usually have the [Extension](#) **.exe** or **.com**. See [Compiler](#), [Machine Code](#).

Expansion Slot: A long, multi-pin socket on the computer's [Motherboard](#) into which an add-on card (such as a [Sound Card](#)) can be inserted to enhance the computer's capabilities.

Extension: In computer jargon an *extension* is an optional addition, usually consisting of a dot plus three or four letters, to the name of a [File](#). The extension to the filename helps the computer (and the user) recognise what type of file it is and what it may contain, e.g. **.doc** is a *Word* document file, **.exe** is a computer program, **.jpg** or **.jpeg** is a picture file, and **.htm** or **.html** is a Web page file. See the following websites for further information on file extensions, what they mean, and links to sites offering utilities for managing and converting different types of files:

- **Dot What!?** <http://www.dotwhat.net>
- **File Extensions:** <http://www.file-extensions.org>
- **Fileinfo:** <http://www.fileinfo.com>

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F

FAQ: Abbreviation for Frequently Asked Question. The ICT4LT project's list of FAQs is located [here](#).

Favorites: A facility within the *Internet Explorer* [Browser](#) that enables you to keep a record of Web pages that you have visited and may wish to visit again. Also known as *bookmarks*: see [Bookmark](#). *Favorites* are stored in a subdirectory of the [Windows](#) directory on your computer. Note the American spelling rather than British *Favourites*. This arose because *Internet Explorer* is a product of the American Microsoft Corporation.

Feedback: Feedback is an automatic response from a computer, which may take the form of text, image, audio, video or any combination of these, to a learner's input. Input from the learner may take various forms, e.g. (i) clicking with the mouse to select an answer in a multiple-choice exercise, (ii) typing an answer at the computer keyboard, or (iii) speaking an answer into a microphone. Feedback in interactive language learning materials should go beyond a "boing" (wrong) or "applause" (right) or "try again" message and attempt to mimic the "live" situation when using the language results in either a response from the other person or an action showing that the language used was appropriate. Feedback is often described as *intrinsic* (implicit) or *extrinsic* (explicit). See [Section 7.2, Module 1.1](#), headed *Feedback*, and [Section 8, Module 2.5](#), headed *How to factor feedback into your authoring*, on the distinction between **intrinsic feedback** and **extrinsic feedback**.

File: A *file* in computer jargon can be used to describe many different things. It may be a [Computer Program](#), a document file created with a [Word-processor](#), an image file, an audio file, a video file, etc. Think of it in the same way as you would think of a file in a filing cabinet. A file has a name that describes what it is, and the file is stored in a place where you can easily find it. Files are usually grouped together on a computer's [Hard Disk](#) in *directories* or *folders* and, as well as their names, they usually have a three-letter [Extension](#) that tell you what their function is or what they contain, e.g. **fwtt.exe** is a program, **mystory.doc** is a *Word* document, **sally.jpg** is a picture, and **mydog.mpg** is a video file. Files may also be stored on [CD-ROMs](#), [DVDs](#) and [Flash Drives](#). See [Directory](#), [Extension](#), [Folder](#), .

Filename: The name of a [File](#) on a computer.

File Permissions: Files stored on a computer usually have *permissions* governing which users are allowed to read, amend or execute them. This is particularly important in a school, college or university network environment, where teachers and lecturers may have the permission to amend certain files, e.g. documents that they have created, but students are only allowed to read them. File permissions are usually determined by network managers.

File Transfer Protocol: See [FTP](#).

Firewall: A *firewall* is a software package that sits between your computer and your Internet connection, keeping an eye on the traffic going to and fro. If anything suspicious appears, such as an unauthorised attempt from a remote computer to write information to your hard disk or to send information from your computer to a remote computer, it will block it and warn you. Firewalls have become essential these days because of the frequent attempts being made by *hackers* to grab confidential information from computers all around the world, e.g. your bank or credit card details, which may be stored in a file somewhere on your computer. Any computer is vulnerable while it is connected to the Internet. The author of this paragraph writes from personal experience: two attempts have been made by hackers to grab passwords from his computer. Both attempts were fortunately spotted by his Internet Service Provider and blocked, so no damage was done. If you access the Internet via a computer in a public or commercial organisation your ICT services department has almost certainly installed a firewall, but if you access the Internet via your personal computer then you should make sure that you install your own firewall. In addition you should install an *anti-virus package*. See [Hacker](#), [Virus](#).

Firewire: A *firewire* is in essence a facility that allows you to transfer video recordings very quickly from one device to another, e.g. from a [Camcorder](#) to a computer, using a special cable that connects to the computer's firewire socket. Many modern computers already have a firewire socket built in. If your computer does not have a firewire socket then you have to buy a firewire card and slot it in. See [Section 2.2.3.4, Module 2.2](#), headed *Video editing software*.

Firmware: Software that has been written to a ROM (Read Only Memory) chip by the manufacturers. See *ROM, Silicon Chip*.

Flame: *Flame* is a term used to describe language that is rude, sarcastic or condescending, especially the language used in a [Discussion List](#), [Forum](#) or [Blog](#). See [Troll](#). See [Section 14.1.4, Module 1.5](#), headed *Netiquette*.

Flash Drive: A portable [Storage Device](#). *Flash drives* look like a small flat pen, around 5cm to 10cm long, and are easily carried in your pocket. Their storage capacity is impressive; 2GB is not unusual these days. They are used to store data that you wish to carry around, e.g. a *PowerPoint* presentation, and they can be plugged into any computer with a [USB](#) socket. Flash drives are also commonly referred to as *pen drives* or *memory sticks*. See [Section 1.1.5.3, Module 1.2](#), which contains an illustration of a flash drive.

Flash Player and Flash Professional: Software produced by Adobe for the development and viewing of animated and interactive sequences on the Web. See [Plug-in](#). See [Section 4.4, Module 3.3](#), headed *Tools for adding sound and video to your website*.

FLV: Abbreviation for Flash Video, a proprietary file format used to deliver video over the Web using the Adobe [Flash Player](#).

Floppy Disk: A plastic disk covered in magnetisable material, enclosed in a case, on which data is stored magnetically. A typical 3.5-inch floppy disk can store up to 1.44MB of data. Floppy disks are used for carrying small amounts of data around from one location to another, e.g. a *Word* document, but they are now becoming obsolete and are being replaced by [CD-ROMs](#), [DVDs](#), and [Flash Drives](#).

Folder: An alternative word for a *directory* and which has become more common since the introduction of [Windows](#). It describes a location on a disk which contains a set of related files. A folder can be divided into sub-folders. See [Directory](#), [Pathname](#).

Font: The terms *font* (also spelt *fount*) and *typeface* are often confused or interchanged. *Font* refers to a complete collection of letters, numerals, symbols and punctuation marks that have common characteristics, including their style and size. The two commonest fonts are Times New Roman, a [Serif](#) font, which is characterised by cross-lines that finish off the stroke of each letter, and Arial, a [Sans Serif](#) font that has no cross-lines. *Typeface* is the name given to the style of a particular set of letters, numerals, symbols and punctuation marks.

Formatting: The process of preparing a writeable disk for use. Formatting creates a structure on the disk which enables it to hold data.

Forum: Often used synonymously with [Discussion List](#). An electronic forum on the Internet or an intranet enables users to post messages by email or via the Web for other users to read and respond to. See also [Blog](#), [Bulletin Board](#), [Newsgroup](#), [Wiki](#). See [Section 12, Module 1.5](#), headed *Discussion lists, blogs, wikis, social networking*.

Fourth Generation Language (4GL): A programming language of a higher level than 3GLs such as C or Pascal - that is, the program code is closer to English, and a 4GL function might be the equivalent of many 3GL functions. 4GLs are used for writing software for specialised tasks, such as querying databases. See [Programming Language](#).

Frame: A area in a Web page that scrolls independently of the rest of the Web page. A Web page can be divided into multiple frames. For example, a frame can include a navigation bar - as at the ICT4LT website - that always stays on the screen as the user moves around the other pages of the site.

Freeware: Software that can be copied and used without payment to the author(s), although there may be some restrictions on distribution. See [Shareware](#).

FTP: Abbreviation for File Transfer Protocol. This is the method, i.e. a software standard, used for transferring files from one computer to another via the [Internet](#). FTP is also used as a verb in the sense "to transfer" (a file). See [Anonymous FTP](#)..

Fuzzy Matching: A matching technique which is used in programs when allowances have to be made for inaccuracies in spelling on the part of the learner. A good fuzzy-matching routine would enable a computer to recognise the learner's input of "sichiatriste" as "psychiatrist". This technique is incorporated into spelling checkers and *search engines* such as [Google](#), and it can be useful in [CALL](#) programs where a broad interpretation of the user's input is necessary. See [Matching](#), [Partial Matching](#). See [Section 1.2, Module 1.4](#), headed *Interactivity*.

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G

Gap-filler / Gap-filling program: Still as popular as ever in [CALL](#). Not to be confused with [Cloze](#), which involves an automatic word deletion procedure. Gap-fillers are more flexible than Cloze programs. Gap-filling programs often consist of two parts: a teacher's program which allows the teacher to input a text and specify words, parts of words, or phrases that are to disappear, and a student's program which enables the learner to interact with the computer by filling in the gaps. See [Authoring Package](#), [Text Manipulation](#). See [Section 8.2.3, Module 1.4](#), headed *Gap-filling*. See [Module 2.5](#), *Introduction to CALL authoring programs*. See [Section 5.2, Module 3.2](#), headed *Gap-filling exercises*.

Gateway: See [Portal](#).

GB: Abbreviation for [Gigabyte](#).

Geek: A colloquial term describing someone who is obsessed with computers and uses them at every opportunity in their free time, mainly for "social" purposes, e.g. communication via email and blogs, playing multi-user games, etc. See also [Anorak](#), [Nerd](#), [Techie](#), [Trainspotter](#).

Generic CALL: This term is normally used to describe an [Authoring Package](#) designed to cover all aspects of [CALL](#) program authoring and interaction, from simple gap-filling and multiple-choice exercises to exercises incorporating interactive multimedia, e.g. the **MALTED** authoring package as described by Paul Bangs in [Module 2.5](#).

Generic Software / Generic Application: This term normally refers to general-purpose software applications that are not designed for use in a specific subject area, e.g. a word-processor (e.g. *Word*), spreadsheet package (e.g. *Excel*), presentation software (e.g. *PowerPoint*) or database package (e.g. *Access*). See previous entry, *Generic CALL*.

GHz: Abbreviation for [GigaHertz](#).

GIF: Abbreviation for Graphic Interchange Format. A file format used for storing simple graphics. GIF files use a palette of 256 colours, which makes them practical for almost all graphics except photographs. Generally, GIF files should be used for logos, line drawings, icons, etc, i.e. images that don't contain a rich range of colours. A GIF file containing a small number of colours tends to be quite small, but it will be big if the image has a wide range of colours, e.g. a photograph. GIF files are commonly used for storing images on the Web. GIF files are also suitable for storing animated (i.e. moving) images. See [BMP](#), [EPS](#), [JPEG/JPG](#), [TIFF](#). See also [Section 2.2.3.1, Module 2.2](#), headed *Image editing software*.

Gigabyte: Usually abbreviated to *GB*, or *gig* in common computer parlance. A unit of measurement of computer memory or disk capacity = 1,073,741,824 bytes. See the entry on [Measurement Units](#). See [Bit](#), [Byte](#), [Kilobyte](#), [Megabyte](#).

GigaHertz: Usually abbreviated to *GHz*. A unit of measurement relating to the [Clock Speed](#) of a computer or, put simply, a measurement of how fast its [Central Processing Unit \(CPU\)](#) runs. Typical clock speeds of modern computers range from 500 [MegaHertz](#) (500MHz) upwards. Faster clock speeds are normally expressed in GigaHertz (= 1000MHz). See [Hertz](#), [Microprocessor](#).

Google: A popular [Search Engine](#). Probably the most widely used search engine on the Web. You can also use *Google* to find definitions of words. Call up *Google* at <http://www.google.co.uk> and in the search box: type **define:** immediately in front of the word you would like to be defined. *Google* will then locate definitions of that word on the Web, e.g. try **define:bandwidth** or **define:ADSL**. If your term consists of two or more elements, e.g. *blended learning*, encase it in inverted commas, thus: **define:"blended learning"**. [Blended Learning](#) is also defined in this Glossary. See [Section 4, Module 1.5](#), headed *Search engines: How to find materials on the Web*. "To Google" is even used as a verb in the sense "to carry out a search on the Web". As well as offering a search facility, Google offers much more: maps, news, shopping, translation services, document sharing etc.

Gopher: A pre-worldwide-Web method of presenting information on the Internet. Gopher servers present a hierarchical set of menus, descending from one main menu, which lead to files and documents. The spectacular rise of the World Wide Web is driving the gopher into extinction. See [Internet](#), [World Wide Web](#).

Graphical User Interface (GUI): An [Interface](#), i.e. a software package, that enables human beings to control what happens on their computers. A GUI consists of graphical elements known as *icons* and enables the user to run programs and to carry out other operations such as copying information from one [Folder](#) to another, deleting files, etc by clicking on these *icons*, opening and shutting *windows* and dragging and dropping with a *mouse*. *Microsoft Windows* and the much older Apple Mac interface are GUIs. Contrasted with [Character User Interface \(CUI\)](#), an older type of interface which required the user to control the computer by typing commands at the [Keyboard](#). See [Icon](#), [Mouse](#), [Operating System](#), [Window](#), [Windows](#).

Graphics Card: An alternative name for a [Video Card](#).

GUI: Abbreviation for [Graphical User Interface](#).

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H

Hacker: A person who spends their time trying to gain access to information stored on other people's computers all around the world. Some hackers are just harmless browsing types, but other have more invidious aims such as grabbing details of your credit cards or bank account, which may be stored in a file somewhere on your computer. If you access the Internet regularly you should consider installing a [Firewall](#) to protect yourself against hackers.

Hardcopy or Hard Copy: Printed output from a computer, as opposed to output on screen.

Hard Disk: A *hard disk* consists of a single rigid magnetic disk or a set of such disks enclosed within a metal case, i.e. a *hard disk drive*, which is mounted internally in your computer and is used for storing the computer programs and data that it needs in order to work. External hard disk drives can also be obtained for additional storage capacity or backup storage. Hard disks can contain vast amounts of data, usually measured in *gigabytes*. See [CD-ROM](#), [DVD](#), [Floppy Disk](#), [Gigabyte](#), [Storage Device](#). See [Section 1.1.5.1, Module 1.2](#) for further information.

Hardware: The physical elements of a computer system - the bits you can see, touch, drop, kick or fall over. Contrasted with [Software](#). See [Section 1, Module 1.2](#), which contains descriptions and images of many different *hardware* items.

HDD: Abbreviation for Hard Disk Drive. See [Hard Disk](#).

Hertz: Usually abbreviated to *Hz*. A unit of measurement relating to the number of times something is repeated per second. In computer jargon this normally refers to the [Clock Speed](#) of a computer, i.e. in simple terms how fast the computer runs. One Hertz is one cycle per second. Computer clock speeds are normally expressed in [MegaHertz](#) (*MHz*) or [GigaHertz](#) (*GHz*). Named after the physicist and mathematician Heinrich Hertz (1857-1894), the discoverer of radio waves. The frequency of radio waves is also expressed in Hertz. You will also find the term *Hertz* used in connection with programs for producing digital audio recordings, where Hertz refers to the [Sampling Frequency](#) (also called *sampling rate*) at which the recording is made or stored. See [Section 2.2.3.3, Module 2.2](#), headed *Sound recording and editing software*.

Hexadecimal: A number system used in computers in which numbers are composed of combinations of 16 digits, using 0-9 then the letters A-F to represent 10-15. Hex allows binary numbers to be expressed in a more compact and comprehensible form. For example, 255 = FF (hex) = 11111111 (binary). See [Binary](#).

Hit: A colloquial term which is often used to refer to a successful search for information on the Web, e.g. using a [Search Engine](#), or the number of visits a site receives.

HLT: Abbreviation for [Human Language Technologies](#).

Homepage or Home Page: This is the main Web page of a business, organisation or school, or of a personal website. From this page links are made to other pages on the same site and to

external sites. Most people usually set up their [Browser](#) to open with this page when it starts up. See [Website](#), [World Wide Web](#). See [Section 5.2, Module 3.3](#), headed *Homepage*.

Host: Short for *host computer*. Any computer that provides services to other computers that are linked to it, via a local network or via the [Internet](#).

Host Name or Hostname: A *host name* is the unique name of a computer on the Internet, which is normally written as a series of letters, for example **www.hull.ac.uk**. A *host name* is the human-friendly form of the host's numerical [IP address](#), i.e. it's an alias for the "real" Internet address of the host computer, e.g. **150.237.176.24**. See [Domain Name](#), [Host](#), [Internet](#), [URL](#), [Website](#).

Housekeeping: This could be interpreted as going round with the feather duster and keeping your computer equipment free of dust, but in computer jargon it refers to organising and managing the software installed on your computer system.

HTML: Abbreviation for Hypertext Markup Language. The coding system used for creating pages on the [World Wide Web](#). HTML enables the author to control how the page appears and to insert [Hypertext](#) links within one Web page or to other pages anywhere on the Web. Nowadays most Web authors and designers use an [Authoring Tool](#) such as *Front Page* or *Dreamweaver* to create World Wide Web pages. Web page files end with the [Extension](#) **.htm** or **.html**. See [Anchor](#), [Hyperlink](#), [URL](#), [World Wide Web](#). See [Module 3.3](#), *Creating a World Wide Web site*.

HTTP: Abbreviation for Hypertext Transfer Protocol. The transfer method (*protocol*) used by the World Wide Web to transmit and receive Web pages. This abbreviation normally precedes the name of a website, e.g. **http://www.ict4lt.org**, to tell your computer that this is the way in which you wish to communicate with other computers on the [Internet](#). In practice, however, you can usually miss out the prefix **http://** as it is assumed to be the norm. See [HTML](#), [Hyperlink](#), [Hypertext](#), [Protocol](#), [World Wide Web](#).

Hub: A common connection point for networked computers and other devices. Hubs are used to connect devices in a Local Area Network (LAN). See [LAN](#).

Human Language Technologies (HLT): Since January 1999 this has been the European Commission's official term for what used to be described as *Language Engineering*. The term covers a range of applications of advanced technology to human languages, e.g. [Automatic Speech Recognition \(ASR\)](#), [Machine Translation \(MT\)](#), etc. See [Module 3.5](#), *Human Language Technologies*. See [Natural Language Processing](#).

Hyperlink: A contraction of *hypertext link*, the essence of [Hypertext](#) and the [HTML](#) language used for creating pages on the [World Wide Web](#). In a Web document a *hyperlink* can be a sequence of letters or an image. By clicking on the area designated as a *hyperlink* by the person who created the Web page, it is possible to jump quickly to another part of the page, a different page on the same website, or to a completely different website. See [Hypermedia](#). See [Section 2, Module 1.5](#), headed *What is the World Wide Web?* Hyperlinks can also be inserted into a *Word* document, enabling the reader to jump from one point in the document to another, or out of the document to a website. See [Anchor](#).

Hypermedia: The extension of the *hypertext* concept to *multimedia*, describing the combination of multimedia information (text, images, audio, video, etc) in a meaningful configuration, which is especially useful for teaching and learning. See [Hyperlink](#), [Hypertext](#), [Multimedia](#). See [Module 2.2](#), *Introduction to multimedia CALL*.

Hypertext: A system for the non-sequential presentation of text, the fundamental concept of the [World Wide Web](#), whereby the user can jump from one part of a text to another, from one Web page to another, or from one website to another, by clicking on highlighted (and usually underlined) *hyperlinks*. The concept of *hypertext* predates the Web by many years. Vannevar Bush is credited with inventing the concept of *hypertext* in his article "As we may think", which was written as early as 1945 and describes an imaginary machine called "Memex" - essentially a hypertext device that takes account of the way the human mind associates ideas and follows a variety of different paths rather than moving on sequentially. See [Hyperlink](#), [Hypermedia](#), [HTML](#). See [Section 2, Module 1.5](#), headed *What is the World Wide Web?*

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I

I-Beam: The form that the [Cursor](#) takes when a document is being edited, e.g. in *Microsoft Word*. It looks a bit like a large letter I.

IC: Abbreviation for [Integrated Circuit](#).

ICALL (Intelligent CALL): An approach to [CALL](#) that makes use of sophisticated programming techniques that mimic human intelligence. See [Module 3.5](#), *Human Language Technologies (HLT)*, especially [Section 6](#), headed *Human Language Technologies and CALL*, and [Section 8](#) on *Parser-based CALL*. See [Artificial Intelligence \(AI\)](#).

Icon: A small symbol or picture used in a [Graphical User Interface \(GUI\)](#). The icons on the computer screen represent programs or files, e.g. a picture of a painter's palette might represent a program used for drawing and editing pictures, and a picture of a book with a question mark on its cover might represent the text of a manual or a help file. In a GUI the [Mouse](#) is used to move the [Cursor](#) so that it locates over an icon. Clicking a button on the mouse then causes the program that the icon represents to run or a file to be displayed.

ICT: Abbreviation for Information and Communications Technology. What the ICT4LT project is all about. See also [C&IT](#) and [IT](#). ICT is the term that is currently favoured by most businesses and educational institutions. The "C" reflects the important role that computers now play in *communications*, e.g. by email, the Web, by satellite and cellphone (mobile phone). We always insist on the "s" at the end of *communications*, which is a term that predates computer technology and was originally associated with morse code, radio, etc and often abbreviated to *comms*.

ILS: Abbreviation for [Integrated Learning System](#).

ILT: Abbreviation for Information and Learning Technology. A term that has recently come into vogue, stressing the *learning* aspect rather than the *communications* aspect, as in [ICT](#).

Ink Jet Printer: A type of [Printer](#) that fire little jets of ink at the page in order to form the characters and graphics. One of the commonest forms of printers currently in use and capable of producing high-quality output in black and white and in full colour.

Input: Anything that goes into a computer in order to be processed and/or stored. Also used as a verb. See [Output](#).

Input Device: Any device that is capable of inputting information into a computer system, e.g. a [Keyboard](#), [Microphone](#), [Mouse](#) or [Scanner](#).

Input Validation: Many programs contain *input validation* routines which prevent the user doing something silly while entering data at the keyboard. A good input validation routine will ensure that the computer sifts out the important information and does any necessary conversion work, e.g. eliminating spaces or unwanted characters, or converting letters to upper or lower case.

Install: A verb used to describe the process of *installing* or *setting up* a computer program or suite of computer programs on the computer's hard disk for first-time use. Programs are normally supplied on [CD-ROM](#) or [DVD](#), but they may also be downloaded from the Web, either free of charge or on payment of a fee.

Install Program or Installation Program: A program that enables the user to *install* or *set up* a program or suite of computer programs on the computer's hard disk for first-time use. Also known as [Setup Program](#). See [Install](#), [Uninstall](#), [Uninstall Program](#).

Integrated Circuit: An electronic circuit etched onto a small piece of silicon which has been subjected, using photo-masking processes, to controlled "doping" with certain impurities. Particular areas of the chip can then be made to act like electronic components such as diodes, capacitors and resistors. See [Microchip](#), [Silicon Chip](#).

Integrated Learning System (ILS): A computer-driven system of learning in which the content is presented in tutorial format and which monitors and records the progress of the learner. See [OILS](#).

Intel: The name of a manufacturer of *microprocessors* used in personal computers. Other companies make Intel-compatible microprocessors. See [Microprocessor](#).

Intelligent CALL: See [ICALL \(Intelligent CALL\)](#).

Interactive Video (IV): A system consisting of a computer connected to a 12-inch *videodisc player*, allowing the presentation of still images or video clips combined with some kind of interactivity, e.g. carrying out a set of exercises linked to the images or to the video clips. Very popular in the 1980s but now technically obsolete and replaced by integrated multimedia computers incorporating DVD or CD-ROM drives. One of the best known educational interactive videodiscs was the *Domesday Disc*, created by the BBC in 1987 to commemorate the 900th anniversary of the creation of the Domesday Book (1087). See [CD-](#)

[ROM](#), [Digital Video Disk](#), [Multimedia Personal Computer \(MPC\)](#), [Videodisc](#). See [Section 1.2, Module 2.2](#), headed *A brief history of multimedia*.

Interactive Whiteboard (IWB): Often abbreviated to IWB. A touch-sensitive projection screen that allows the teacher to control a computer directly by touching the screen, i.e. the whiteboard, rather than using a [Keyboard](#) or [Mouse](#). A [Data Projector](#) has to be connected to the teacher's computer in order to project the image onto the interactive whiteboard and special software has to be installed on the computer in order for the whiteboard to become active and sensitive to touch - which may require the use of an "electronic pen" or it may work in reaction to one's finger or hand. See [Section 1.3.4, Module 1.2](#) for further information and an illustration of an interactive whiteboard. See [Section 4, Module 1.4](#), headed *Whole-class teaching and interactive whiteboards*.

Interface: An *interface* in computer jargon is a connection between two systems. It can be [Hardware](#) or [Software](#). It may take the form of a plug, cable or socket, or all three, for example where a [Printer](#) or [Scanner](#) is connected to a computer, and then it's a hardware interface. There are also software interfaces that enable one program to link with another, passing across data and variables. The term *interface*, also known as *user interface*, also describes the software that is used to enable human beings to communicate with a computer, for example *Microsoft Windows*, which is a [Graphical User Interface \(GUI\)](#) in common use on personal computers. See [Windows](#).

Internet: The *Internet*, or simply "the Net", is a computer network connecting millions of computers all over the world. It provides communications to governments, businesses, universities, schools and homes. Any modern computer can be connected to the Internet using existing communications systems. Schools and universities normally access the Internet via their own educational networks, but private individuals usually have to take out a subscription with an [Internet Service Provider \(ISP\)](#). Although the Internet is in fact a network of networks, it appears to users as a network of individual computers. The Internet dates back to the group of interconnected networks that evolved from the ARPANET of the late 60's and early 70's. It has grown from a handful of interconnected networks into a huge network of millions of computers. The main Internet services of interest to language teachers are [Email](#) and [World Wide Web](#). See also [Blog](#), [Discussion List](#), [Forum](#), [Podcast](#). The World Wide Web is only part of the Internet, but many people treat both terms as synonyms. See [Module 1.5, Introduction to the Internet](#), [Module 2.3, Exploiting World Wide Web resources online and offline](#), [Module 3.3, Creating a World Wide Web site](#).

Internet Explorer: A [Browser](#) produced by the Microsoft Corporation and supplied together with the [Windows](#) operating system.

Internet Service Provider (ISP): A company that provides a subscription service to enable you to access the [Internet](#). An ISP has a network of computers permanently linked to the Internet. When you take out a subscription with an ISP they link your computer to their network, usually via an existing telephone line, but dedicated lines are also provided by some ISPs. ISPs also give you an [Email](#) address and space on the [World Wide Web](#) for setting up your own website.

Interpreter: Software which converts the human-readable [Source Code](#) of a program which has been written in a high-level programming language such as BASIC, one statement at a

time, into machine instructions as the application is run. Interpreted applications need to be distributed with runtime programs and function libraries. See [Compiler](#), [Machine Code](#).

Intranet: A private network inside a company or educational organisation and used over its [LAN \(Local Area Network\)](#). A sort of local Internet. Contrasted with [Internet](#), which is publicly available.

I/O: Abbreviation for Input/Output. See [Input](#), [Output](#).

IP Address: Short for Internet Protocol Address. The unique numerical address of a computer on the [Internet](#), expressed as four sets of numbers (maximum 3 digits each) separated by dots: e.g. **150.237.176.24** for one of the computers at the University of Hull - where the ICT4LT website is located. Computers on the Internet are nearly always referred to by more memorable *domain names*, which are mapped onto their *IP addresses* by special Internet computers known as *name servers*. See [Domain Name](#), [Host](#), [Host Name](#), [Name Server](#).

iPod: The name of a portable (mobile) [Media Player](#) designed and marketed by Apple. The **iPod** first appeared in 2001. As well as being capable of storing and playing back audio recordings, newer models can also record and play back video. The iPod has become popular for storing recordings, mainly music, downloaded from the Web or transferred from audio CD to a computer and then moved across to an iPod using a software package known as **iTunes**: <http://www.apple.com/itunes/>. See [Section 2.2.1, Module 2.2](#), headed *Media Players*.

ISDN: Abbreviation for Integrated Services Digital Network. A type of digital telephone service, used for transferring large chunks of data to and from the Internet without a [Modem](#). Gradually falling out of use these days with the introduction of ADSL broadband services. ISDN lines normally operate at 128 Kbps, which is faster than a standard 56Kbps [Dial-up Modem](#) but slower than an ADSL connection, which runs at a speed of at least 1Mbps. See [ADSL](#), [Broadband](#), [Kbps](#), [Leased Line](#).

ISP: Abbreviation for [Internet Service Provider](#).

IT: Abbreviation for Information Technology. Essentially, technology relating to information processing, i.e. computer technology, but see also [ICT](#), [C&IT](#), both of which describe the converging of information technology and communications technology. The term IT is rapidly being replaced by ICT in order to reflect the important role that information technology plays in communications by email, the Web, satellites and mobile phones.

IV: Abbreviation for [Interactive Video](#).

IWB: Abbreviation for [Interactive Whiteboard](#).

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JANET: Acronym for Joint Academic Network. All further and higher education organisations in the UK are connected to the JANET network.

Java: A programming language, invented by Sun Microsystems, that is specifically designed for writing programs that can be downloaded to your computer through the Internet and immediately executed. Using small Java programs, called *applets*, Web pages can include functions such as animations, interactive sequences, etc. You need to set up your browser to enable it to interpret and run the Java applets. Java is similar to a programming language known as C++ but it has been considerably simplified. Not to be confused with [Javascript](#). See [Applet](#).

Javascript: *Javascript* is a script language, a system of programming codes that can be embedded into the HTML code of a Web page to add functionality, e.g. interactive sequences, questionnaires, etc. Although it shares many of the features and structures of the full [Java](#) language, Javascript is essentially quite different and was developed independently.

JISC: Acronym for Joint Information Systems Committee. The Joint Information Systems Committee supports further and higher education in the UK by providing strategic guidance, advice and opportunities to use Information and Communications Technology (ICT) in teaching, learning, research and administration. JISC is funded by all the UK post-16 and higher education funding councils: <http://www.jisc.ac.uk>

Joystick: A device that looks a bit like a gear lever in a car. This is connected to a computer and is used mainly for controlling the [Cursor](#) in fast action games.

JPEG or JPG: Abbreviation for Joint Photographic Expert Group. Pronounced "Jaypeg". A file format used for storing images. The JPEG/JPG format uses a palette of millions of colours and is primarily intended for photographic images. The internal compression algorithm of the JPEG/JPG format, unlike the GIF format, actually throws out superfluous information, which is why JPEG/JPG files containing photographic images end up smaller than GIF files containing photographic images. If you store an image, say, of a flag containing just three colours in JPEG/JPG format it may end up bigger than a GIF file containing the same image, but not necessarily a lot bigger - it depends on the type and range of colours it contains. JPEG/JPG files containing photographic images are normally smaller than GIF files containing photographic images. JPEG/JPG files are commonly used for storing images on the Web. See [BMP](#), [EPS](#), [GIF](#), [TIFF](#). See also [Section 2.2.3.1, Module 2.2](#), headed *Image editing software*.

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K

Kb: Abbreviation for [Kilobit](#).

KB: Abbreviation for [Kilobyte](#). The single letter *K* is also used.

Kbps: Abbreviation for *kilobits per second*. A unit of measurement of data transmission speed, e.g. via a [Modem](#). See [Bit](#), [Megabit](#).

Karaoke Microphone: A popular name for a type of microphone that is more accurately described as a [Dynamic Microphone](#). See [Microphone](#). See [Section 1.2.4, Module 1.2](#) for further information on microphones.

Keyboard: The keyboard of a computer is used to enter information which the computer displays or processes. It looks much the same as a typewriter keyboard, but has a few additional keys that have special functions. See [Section 1.1.3, Module 1.2](#), which contains an illustration of a computer keyboard.

Key Word In Context (KWIC): A type of search carried out with a [Concordance Program](#). See [Module 2.4](#), *Using concordance programs in the Modern Foreign Languages classroom*.

Kilobit: Usually abbreviated to *Kb*. A unit of measurement consisting of 1,024 *bits*, mainly relating to data transmission speed. See [Bit](#), [Megabit](#).

Kilobyte: Usually abbreviated to *K* or *KB*. A unit of measurement of computer memory or disk capacity = 1,024 *bytes*. See entry on [Measurement Units](#). See [Bit](#), [Byte](#), [Megabyte](#), [Gigabyte](#).

KWIC: Acronym for [Key Word In Context](#).

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LAN: Abbreviation for Local Area Network. A [Network](#) of computers at one site that provides services to other computers connected to it. A *LAN* is usually limited to an immediate area, for example the floor of a building, a single building or a campus. The most important part of a LAN is the [Server](#) that delivers software to the computers (also known as *workstations* or *clients*) that are connected to it. The *server* is usually the most powerful computer in the network. Users of computers connected to a LAN can access their own files remotely and exchange information with the server and other users connected to the network. See [Client](#), [MAN](#), [WAN](#), [Web Server](#).

Language Aptitude Testing (LAT): See the entry under [Modern Language Aptitude Testing \(MLAT\)](#).

Language Engineering: The older term for a range of technologically advanced applications of ICT to natural (i.e. human languages), including [Automatic Speech Recognition \(ASR\)](#) and [Machine Translation \(MT\)](#). Since January 1999 the European Commission has favoured a new term, [Human Language Technologies \(HLT\)](#). See [Module 3.5](#), *Human Language Technologies (HLT)*.

Laptop Computer: A *laptop computer* is a computer that is light and can easily be carried around. Contrasted with [Desktop Computer](#). See [Notebook Computer](#). See [Netbook](#).

Laser Printer: A type of [Printer](#) that works by firing a laser at a rotating drum. Laser printers produce high-quality output at a reasonable speed.

LAT: Abbreviation for [Language Aptitude Testing](#).

LCD: Abbreviation for Liquid Crystal Display. A technology used for producing a type of flat panel computer [Display Screen](#), which is replacing the older type of [Cathode Ray Tube](#) display screen. A more advanced form of technology for producing flat panel display screens is known as [TFT \(Thin Film Transistor\)](#). LCD and TFT screens are also used in *digital cameras* and *camcorders*. See [Camcorder](#), [Digital Camera](#).

Learning Management System (LMS): See [Virtual Learning Environment \(VLE\)](#).

Learning Object: A self-contained piece of learning material with an associated learning objective. Essentially, a *learning object* should be capable of being reused in a variety of applications and may be described as a [Reusable Learning Object \(RLO\)](#). Examples include interactive sequences made up of different combinations of texts, images, audio and video clips, and self-contained exercises that might be incorporated into a website or [Courseware](#) created with the aid of an [Authoring Tool](#), or a [Virtual Learning Environment \(VLE\)](#). See David Wiley, *The instructional use of learning objects*: <http://reusability.org/read/>

Learning Platform: A term used to describe the software and systems that are used to deliver [E-learning](#). Some confusion surrounds this term: sometimes it is used synonymously with [Virtual Learning Environment \(VLE\)](#) and sometimes with [Managed Learning Environment \(MLE\)](#). Many people use it as a catch-all term to describe software and systems designed to manage, deliver and provide access to E-learning materials.

Learning Support System (LSS): See [Virtual Learning Environment \(VLE\)](#).

Leased Line: Also known as a *private circuit*, is a dedicated communications link between two sites. It is separate from the public telephone network and reserved exclusively for the use of the owner, usually at a fixed tariff regardless of usage levels. Leased lines are commonly used where there is high inter-site traffic, where there is a requirement for high [Bandwidth](#), or where reliability and availability are critical considerations. See [ADSL](#), [Broadband](#) and [ISDN](#).

Linkrot: Linkrot describes the tendency of [Hypertext](#) links from one website to another to die as other sites cease to exist or remove or restructure their Web pages. Large companies, educational institutions and government organisations appear to be among the worst offenders. They are forever restructuring and leaving no indication of where the old pages have gone. Pages created by students, for example, often no longer work after the student graduates. *Linkrot* is a growing disease. It is estimated that over 25% of the links on the Web are dead! See the state of the Web survey at *All Things Web*: <http://www.pantos.org/atw/35654.html>. - a figure that is still increasing. There is a worrying new trend too: websites that die can be transmogrified overnight into sites containing offensive material. See [Cybersquatter](#). See Section [6.3.3, Module 3.3](#), headed *Checking for broken links: linkrot*.

Linux: A Unix-type [Operating System](#), similar to [Windows](#) and the Apple Mac operating system. Linux was originally created by Linus Torvalds with the assistance of developers around the world. The [Source Code](#) for Linux is freely available to everyone. See [Unix](#).

Liquid Crystal Display (LCD): See [LCD](#).

LMS: Abbreviation for [Learning Management System](#).

Local Area Network (LAN): See [LAN](#).

LSS: Abbreviation for [Learning Support System](#)

Lurker: Mainly used in connection with a [Discussion List](#), [Forum](#) or [Blog](#). This term describes someone who prefers to read other people's messages rather than posting their own views. Discussion lists, forums and blogs often have thousands of readers but only a handful regularly post messages. The rest prefer to keep quiet and just *lurk* on the sideline.

LWULT Languages: The EC's official term for what many people called Minority Languages. It stands for Least Widely Used and Least Taught Languages. There is a website for European Minority Languages, some of which you may have never heard of before, e.g. Casubian and Nenets: <http://www.smo.uhi.ac.uk/saoghal/mion-chanain/en>. How about Ulster Scots (Ullans): "Laird Laird, Heich Executive o tha Ulster-Scotch Agencie, said Juin at he trows tha role o tha Agencie is uphauldan Ulster-Scotch feks, an no takan thaim owre. He eikit 'Ulster-Scotch maun be an inclusiv cultur, no an exclusiv. Bein inclusiv is whit bein Scotch-Airis bes". Got it? There is also the website of the European Bureau for Lesser-Used Languages: <http://www.eblul.org> - fascinating stuff. Have a look at the website of the [University of Arizona's Critical Languages Series](#) and the [LinguaNET Europa](#) website if you are looking for learning and teaching materials.

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M

Machine Assisted Translation (MAT): The use of computers to assist human beings in the process of translating natural language. MAT systems are normally used as only aids for human translators who have to intervene in the process of translation by machine, making corrections and amendments as necessary. Contrasted with [Machine Translation \(MT\)](#), which normally describes a fully automatic process. See [Translation Memory \(TM\)](#). See [Section 3, Module 3.5](#), headed *Machine Translation*.

Machine Code: The machine-readable form of a computer program, produced by conversion of the human-written program (source code) into binary code by a *compiler* or *interpreter*. See [Compiler](#), [Interpreter](#), [Source Code](#).

Machine Translation (MT): The use of computers to translate natural language. A related term is [Machine Assisted Translation \(MAT\)](#), which normally implies that the computer does

part of the job and human beings correct and amend the text that it produces. See [Translation Memory \(TM\)](#). See [Section 3, Module 3.5](#), headed *Machine Translation*.

Macro: A sort of mini-program that can be incorporated into other programs, comprising a series of keystrokes that you may wish to use over and over again. For example, if you perform a task repeatedly in *Microsoft Word*, you can automate the task using a *macro*. A macro is a series of commands and instructions that you group together as a single command to accomplish a task automatically. Instead of manually performing a series of time-consuming, repetitive actions, you can create and run a single macro - in effect, a custom command that carries out the task for you. A macro can be saved and called up whenever you need it. A degree of caution needs to be exercised if you are given or sent a file, e.g. a *Word DOC* file, containing a macro, as macros can harbour *viruses*. Make sure you know where the file comes from. See [RTF](#), [Virus](#).

Mainframe Computer: Loosely speaking, a very large computer which can serve many users at remote terminals. See [Microcomputer](#), [Minicomputer](#).

Main Menu Bar: The *main menu bar* is normally located at the top of the screen when you are using an application such as a word-processor or [Browser](#), consisting of a set of names of *drop-down menus* that enable a variety of different tasks to be carried out. See [Menu Bar](#).

MALL: Acronym for Mobile Assisted Language Learning. See [Section 4.2, Module 1.1](#).

MAN: Abbreviation for Metropolitan Area Network. A network of computers located at different sites within a large fixed area, such as a city. See [LAN](#), [WAN](#).

Mashup: A *mashup* is a Web page that brings together data from two or more Web services and combines the data into a new application with added functionality. Mashups are typical manifestations of [Web 2.0](#). For further information on mashups see [Section 2.1, Module 1.5](#), headed *What is Web 2.0?*

MAT: Abbreviation for [Machine Assisted Translation](#).

Matching: In CALL programs, matching is the process of comparing the learner's inputs at the keyboard with what is stored in the computer. See [Fuzzy Matching](#), [Partial Matching](#). See [Section 1.2, Module 1.4](#), headed *Interactivity*.

Maze: *Mazes*, also known as *action mazes* and *text mazes*, have been used by language teachers for many years for reading and comprehension activities and to stimulate conversation in the classroom. See, for example, Berer M. & Rinvulcri M., *Mazes: a problem-solving reader*, published by Heinemann in 1981 and subsequently converted (with Heinemann's permission) into a BBC microcomputer program. An action maze is a collection of short pieces of text, each of which poses a problem and a set of alternative solutions. The learner can follow different paths through the maze but may end up in loops and blind alleys. The onus is therefore on the learner to read the texts carefully and to assess the situation accurately. Mazes are ideal for group work. Computerised versions of mazes can be written very easily in [HTML](#) or with a suitable [Authoring Tool](#), e.g. the *Quandary* package at <http://www.halfbakedsoftware.com/quandary.php>. Mazes can be run online and offline. See [Adventure Game](#), [Simulation](#).

Mb: Abbreviation for [Megabit](#).

MB: Abbreviation for [Megabyte](#).

Mbps: Abbreviation for *megabits per second*. A unit of measurement of data transmission speed, e.g. via a [Modem](#). A typical [Broadband](#) connection to the Internet transmits data at 1 Mbps to 8 Mbps. See [Bit](#), [Kilobit](#).

MC: Abbreviation for Multiple Choice, as in [Multiple Choice Exercise](#).

MCQ: Abbreviation for Multiple Choice Question. See [Multiple Choice Exercise](#).

Measurement Units: There is still a good deal of confusion about what the terms [Kilobyte](#), [Megabyte](#), [Gigabyte](#), etc mean. Traditionally, the terms *kilobyte*, *megabyte* and *gigabyte* are used to express the binary multiples of 1,024, 1,048,576 and 1,073,741,824 bytes but, because people are used to thinking decimal rather than binary, the International Electrotechnical Commission (IEC: <http://www.iec.ch>) approved in December 1998 a new standard for names and symbols for use in the fields of data processing and data transmission. This was adopted in January 1999 by the Institute of Electrical and Electronics Engineers (IEEE: <http://www.ieee.org>). Thus *kilobyte*, *megabyte* and *gigabyte* should now be used to express the decimal multiples 1,000, 1,000,000 and 1,000,000,000 bytes. New terms, *kibibyte*, *mebibyte* and *gibibyte*, were approved to be used to express the binary multiples 1,024, 1,048,576 and 1,073,741,824 bytes, but these still have not caught on among the general public. See <http://physics.nist.gov/cuu/Units/binary.html>. We are grateful to Daniel Thibault for drawing our attention to these changes.

Media (pl.) / Medium (sing.): In computer jargon this term has two main senses: (1) [Storage Media](#), e.g. CD-ROMs, DVDs, flash drives, etc - also referred to as [Storage Devices](#), (2) *Media* in the sense of audio and video recordings in [Digital](#) format that can be played back on a [Media Player](#). See [Multimedia](#) and [Module 2.2](#), *Introduction to multimedia CALL*.

Media Player: Used in two main senses: (1) a program that enables your computer to record, store and play back audio and video recordings; (2) a device such as the portable [iPod media player](#) that is also used to record, store and play back recordings. See [Section 2.2.1](#), [Module 2.2](#), headed *Media players*.

Megabit: Usually abbreviated to *Mb*. 1,024 *kilobits* or 1,048,576 *bits*, a unit of measurement, usually relating to data transmission speed. See [Bit](#), [Kilobit](#).

Megabyte: Usually abbreviated to *MB*. 1,024 *kilobytes* or 1,048,576 *bytes*. A unit of measurement of computer memory or disk capacity. Roughly 180,000 words of text - an average-sized novel. See entry on [Measurement Units](#). See [Bit](#), [Byte](#), [Kilobyte](#), [Gigabyte](#).

MegaHertz: Usually abbreviated to *MHz*. A unit of measurement relating to the [Clock Speed](#) of a computer or, put simply, a measurement of how fast its [Central Processing Unit \(CPU\)](#) runs. Typical clock speeds of modern computers range from 500MHz upwards. Faster clock speeds are normally expressed in [GigaHertz](#) or *GHz* (= 1000MHz). See [Hertz](#), [Microprocessor](#).

Memory: Most people use this term to refer to a computer's temporary internal main memory or [RAM](#). Memory may also refer to [ROM](#) (Read Only Memory), which is permanent and part of a computer system as supplied by the manufacturer.

Memory Stick: A small electronic card, also known as a *memory card*, which is inserted into a [Digital Camera](#) or [Camcorder](#) for storing photographs or movie files that can then be uploaded to a computer. This term is also used as an alternative to [Flash Drive](#).

Menu: A list of options from which a computer user makes a selection in order to determine the course of events in a program. This usually involves keying in a single letter or number, or selecting text or an [Icon](#) with a [Mouse](#). See [Main Menu](#), [Menu Bar](#), [Toolbar](#).

Menu Bar: Most computer programs display a *menu bar* or set of menu bars at the top of the screen, from which choices can be made by the user to carry out certain operations, e.g. saving a [File](#), printing a document, or setting up the program in different ways. See [Main Menu Bar](#), [Menu](#), [Toolbar](#).

MFL: Abbreviation for Modern Foreign Languages. A term used mainly in the UK to describe foreign languages that are commonly taught in schools, e.g. French, Spanish and German - as well as more exotic languages such as Chinese and Arabic.

MHz: Abbreviation for [MegaHertz](#).

Microblogging: An approach to [Blogging](#) in which very short texts are posted containing snippets of information about events, websites and other information. See JISC's **Web2practice** video on **Blip TV**: <http://web2practice.jiscinvolve.org/microblogging/>. [Twitter](#) is an example of a popular microblogging facility.

Microchip: Also referred to as [Chip](#) or [Silicon Chip](#). Invented in 1958 by Jack St. Clair Kilby, while he was working at Texas Instruments, Dallas, Texas: <http://www.ti.com/corp/docs/kilbyctr/jackstclair.shtml>. An electronic circuit etched on to a small piece of silicon which has been subjected, using photo-masking processes, to controlled "doping" with certain impurities. Particular areas of the chip can then be made to act like electronic components such as diodes, capacitors and resistors. See [Integrated Circuit](#).

Microcomputer: A generic name for a class of computers distinct from bigger mainframe computers and minicomputers. Two of the defining characteristics of a *microcomputer* are that it should be built around one [Microprocessor](#) and that it should be standalone, i.e. capable of operating independently from any other computer or computer [Network](#) to which it might be connected. Modern [Desktop](#) and [Laptop](#) computers fall into this category. See [Mainframe Computer](#), [Minicomputer](#).

Microphone: Essential for making sound recordings in multimedia CALL programs. Microphones used in multimedia applications are much the same as those used with standard audiocassette devices. Choosing the right kind of microphone is vital. See [Condenser Microphone](#), [Dynamic Microphone](#). See [Section 1.2.4, Module 1.2](#) for further information on microphones. See also [Module 2.2](#), *Introduction to multimedia CALL*.

Microprocessor: The *microprocessor* is the [Central Processing Unit \(CPU\)](#) of a computer, where all the data processing and calculations are carried out. It's a single silicon chip

containing millions of transistors etched on to its surface, connected to the [Motherboard](#) by an array of pins at its base. See [Silicon Chip](#).

Microsoft Office: A suite of programs produced by Microsoft Corporation, comprising a [Word-processor](#) (*Word*), a [Spreadsheet](#) (*Excel*), a [Presentation Program](#) (*PowerPoint*), an [Email](#) package (*Outlook*), a [Database](#) program (*Access*), and a [Desktop Publishing](#) package (*Publisher*).

Microsoft Windows: See [Windows](#).

MIDI: Abbreviation for Musical Instrument Digital Interface. A format for synthesised music. Music in MIDI format is created and played through the use of synthesisers, unlike "real" music which is normally recorded in [MP3](#), [WMA](#) or [WAV](#) format.

Millennium Bug: A flaw in computer programs which was thought likely to cause a breakdown in computer systems worldwide following the commencement of the Year 2000 - or Y2K in computer jargon. The Millennium Bug arose as a result of year dates having been stored in older computer programs as two digits, e.g. 89 instead of 1989. The bug was most likely to arise when one year date was compared with another, when 00 (instead of 2000) was perceived as older than 89 (instead of 1989). The Millennium Bug proved to be far less of a problem than was anticipated, but it did manifest itself in computerised stock control systems, resulting in batches of canned food with sell-by dates after 2000 being accidentally scrapped before their time. See [Bug](#), [Debug](#).

Minicomputer: Smaller than a [Mainframe Computer](#) and bigger than a [Microcomputer](#). Small businesses often rely on minis. Minis can handle many users at once. Today's minis are much more powerful than yesterday's mainframes.

Minority Languages: See [LWULT Languages](#).

MLAT: Abbreviation for [Modern Language Aptitude Testing \(MLAT\)](#).

MLE: Abbreviation for Managed Learning Environment. The totality of information systems in an educational institution, which may embrace a [Virtual Learning Environment \(VLE\)](#) or [Course Management System \(CMS\)](#).

MMORPG: Abbreviation for Massively Multiplayer Online Role Playing Game, a type of [Virtual World](#) in which players adopt amazing characters to explore fantasy worlds. See [MUVE](#). See Wikipedia: <http://en.wikipedia.org/wiki/MMORPG>

Mobile Assisted Language Learning: see [MALL](#).

Moblog: A contraction of *mobile* and *blog*. A [Blog](#) featuring posts sent mainly by mobile phone (cellphone) or [PDA](#). Moblogs are often set up to enable people to post messages and photographs on the Web while they are travelling. See <http://moblog.net/home/>

Modem: Short for modulator/demodulator. A device which converts computer data to a signal that can be transmitted over a standard telephone line. It can also reconvert a signal coming into a computer via a telephone line so that it can be understood by the computer.

Modems are used to connect computers with the [Internet](#). See Section [1.3.2, Module 1.2](#) for further information and an illustration of a modem.

Modern Language Aptitude Testing (MLAT): A type of testing that aims to predict how well an individual can learn a foreign language in a given amount of time and under given conditions. See [Section 6, Module 4.1](#), headed *Modern Language Aptitude Testing (MLAT)*.

Monitor: The screen on which output from a computer is displayed. Also referred to as [Display Screen](#). See [Section 1.1.2, Module 1.2](#) for further information and illustrations of different types of display screens.

MOO: MOO stands for *Multi-User-Domain Object Oriented* and derives from the earlier [MUD](#). A MOO is an object-oriented database housed on a remote server. Users from around the world can log into a MOO to communicate with other MOO users or players, either *synchronously* (i.e. in real time) or *asynchronously*, and build their own landscape and objects within the MOO. MOOs are beginning to play a role in language learning. (See [Asynchronous](#) and [Synchronous](#)). See [Adventure Game](#) and [MUVE](#), a [Virtual World](#) which can be considered a further development of the MOO concept. See [Section 14.2, Module 1.5](#) under the heading *Chat rooms, MUDs, MOOs and MUVEs*.

Moodle: A [Virtual Learning Environment \(VLE\)](#), also described as a [Course Management System \(CMS\)](#). The Moodle website is at <http://moodle.org>. Moodle is [Open Source](#) software, which means you are free to download it, use it, modify it and even distribute it. Moodle has its own Moodle for Language Teaching Community: <http://moodle.org/course/view.php?id=31>

Motherboard: The main electronic circuit board of a microcomputer, to which other circuit boards (also known as *cards*) can be connected in order to fulfil special functions, e.g. a [Sound Card](#) or [Video Card](#). Typically, the motherboard contains the [BIOS](#), [CPU](#), [RAM](#), [ROM](#) and all the controllers required to control standard peripheral devices, such as the [Display Screen](#), [Keyboard](#) and disk drives.

Mouse: A *pointing device* that is used by moving it around on your desk and pressing (clicking) a button. Most mice have two buttons (left and right) but some have three. Apple Mac computers use a mouse with just one button. Moving the mouse causes a pointer or [Cursor](#) to move around the the screen, and clicking a mouse button once or twice when the pointer is hovering over an icon or word activates a command, e.g. starts a computer program or initiates an action inside another program such as *Microsoft Word*. A mouse is used with computers that use a [Graphical User Interface \(GUI\)](#). See [Pointing Device](#). See [Section 1.1.4, Module 1.2](#), which contains an illustration of a mouse.

MOV: The format for storing and playing back audio and video files using the [QuickTime](#) media player on the Apple Macintosh, but also available for the multimedia PC. Economical in terms of storage space. See <http://www.apple.com/quicktime>. See [ASF](#), [AVI](#), [MPEG](#), [RM](#), which are alternative video file formats. See [Section 2.2.3.4, Module 2.2](#), headed *Video editing software*.

MP3: Abbreviation for MPEG Layer 3: see [MPEG](#). MP3 is a file format for storing high-quality audio files that can be played back on computers and portable *media players* such as the [iPod](#). MP3 has the advantage of taking up far less storage space than the [WAV](#) format

without loss of quality. See also [WMA](#), which is an alternative audio file format. See [Media Player](#). See [Section 2.2.3.3, Module 2.2](#), headed *Sound recording and editing software*. See [MP4](#).

MP4: Abbreviation for the MPEG-4 file format. There are two basic types of MP4: **MP4 AAC (Advanced Audio Coding)** and **MP4 AVC (Advanced Video Coding)**. The MP4 AAC file format is used to store audio files in a more manageable size without affecting the quality. MP4 AAC's best known use is as the default audio format of Apple's **iPhone**, **iPod** and **iTunes Media Player**: <http://www.apple.com/itunes/>. The MP4 AVC file format is used to store video files in a more manageable size without affecting the quality. It is also increasingly being used for storing video on iPods and similar portable devices. See [MPEG](#).

MPC: Abbreviation for [Multimedia Personal Computer](#).

MPEG or MPG: Abbreviation for Motion Picture Expert Group. Pronounced "Empeg". A standard file format for storing movies in digital format and high-quality audio files in a variation known as [MP3](#). Video files stored MPEG format can be recognised by the [Extension .mpg or .mpeg](#). MP3 audio files can be recognised by the [Extension .mp3](#). A newer file format is [MP4](#). MP4 files that can be recognised by the [Extension .mp4](#). See [ASF](#), [AVI](#), [MOV](#), [RM](#), which are alternative video file formats. See [Section 2.2.3.4, Module 2.2](#), headed *Video editing software*. See <http://www.mpeg.org>, a reference site for MPEG, with explanations of different MPEG formats and links to sources of media players.

MPG: A contracted form of [MPEG](#).

MS DOS: Abbreviation for Microsoft Disk Operating System. An *operating system* for the personal computer, written by Microsoft Corporation, but now superseded by *Microsoft Windows*. MS DOS is a character-based system, whereby the user has to type commands at a prompt. See [Character User Interface](#), [Operating System](#), [Windows](#).

MT: Abbreviation for [Machine Translation](#).

MUD: MUD is an abbreviation for *Multi User Domain* or *Multi User Dungeon*. A MUD is a type of real-time Web environment in which users not only email one another but also move around and manipulate objects in an imaginary world. MUDs were originally developed as role-playing adventure games to be engaged in across computer networks but they have developed into a facility for collaboration and education, including language learning. See [Adventure Game](#) and [MOO](#). See also [MUVE](#), a [Virtual World](#) which can be considered a further development of the MOO concept. See [Section 14.2, Module 1.5](#) under the heading *Chat rooms, MUDs, MOOs and MUVES*.

Multimedia: The integration of two or more types of information (text, images, audio, video, animation, etc.) in a single application. See [Hypermedia](#), [Media](#). See [Module 2.2, Introduction to multimedia CALL](#).

Multimedia Personal Computer (MPC): An enhanced [Personal Computer](#) that is able to play sound and video and allows the user to make sound and video recordings. MPCs are virtually a standard nowadays. See [Section 1.2 Module 1.2](#) for further information on the MPC. See also [Module 2.2, Introduction to multimedia CALL](#).

Multiple Choice Exercise: See [Module 2.5](#), *Introduction to CALL authoring programs*, See [Section 5.1](#), [Module 3.2](#), headed *Multiple-choice exercises*.

Multitasking: The execution of more than one program, apparently at the same time, on a computer. In reality, however, the computer rapidly switches its attention from one program to another, thus dividing its time. *Multitasking* makes it possible, for example, to print one word-processed document while working on another. Another form of multitasking allows you to open several different *windows* in which different programs can be run, but only one window is the *active window*. See [Window](#) and [Windows](#).

Munge: The act of disguising your email address so it cannot be deciphered or cannot easily be deciphered by a [Spammer](#). Normally used as a verb, "to munge". From MUNG: Mangle Until No Good.

MUVE: An abbreviation for Multi User Virtual Environment, also known as a [Virtual World](#). This is a further development of the [MUD](#) concept. [Second Life](#) is an example of a MUVE that allows undreds of simultaneous users to interact in a virtual world in which they each adopt a chosen character or [Avatar](#). See [MMORPG](#). See [Section 14.2](#), [Module 1.5](#) under the heading *Chat rooms, MUDs, MOOs and MUVEs*. MUVEs are closely associated with [Web 2.0](#) applications

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Name Server or Nameserver: Also known in full as [Domain Name Server](#). A special type of Internet computer which converts a website's *domain name* into a unique numerical *IP Address* that identifies the computer where the website is stored. When you try to connect to a website with a domain name such as **hull.ac.uk** (University of Hull), a request is first made to a *name server* to resolve this name into an *IP address*, which is then used to locate the computer where the website is stored and to establish a connection with it. See [Domain Name](#), [Host Name](#), [IP Address](#).

Narrowband: A term used to describe a slow-speed connection to the [Internet](#), normally via a [Modem](#) and less than or equal to 64 Kbps. Contrasted with [Broadband](#). See [Kbps](#).

National Grid for Learning (NGfL): An initiative by the UK Government's Department for Education and Employment..The aims of this initiative were set out in a consultation paper, *Connecting the Learning Society*, October 1997. The *NGfL* was designated as a provider of information and resources for all schools, colleges and universities in the UK, but it developed into a rather cumbersome website that users found difficult to [Navigate](#). The NGfL website closed in April 2006.

Natural Language Processing (NLP): A general term used to describe the use of computers to process information expressed in natural (i.e. human) languages. See [Human Language Technologies](#). See [Module 3.5](#), *Human Language Technologies (HLT)*.

Navigation: This describes the process of finding your way, i.e. *navigating*, around a series of menus within a computer program or finding your way around the [World Wide Web](#) by means of a [Browser](#).

Nerd: A colloquial term describing a computer boffin. Unlike other terms such as [Anorak](#), [Geek](#), [Techie](#) and [Trainspotter](#), the term *nerd* has acquired mainly positive connotations in recent times, as in the 1996 TV series "Triumph of the Nerds: the Rise of Accidental Empires", which tells the history of the rise of the computer boffins such as Microsoft's Bill Gates and Apple's Steve Jobs, both of whom are described as *nerds*: see <http://www.pbs.org/nerds>

Netbook: A netbook is a small, lightweight computer, smaller than a [Laptop Computer](#), with a long battery life and ideal for travelling. Netbook computers have built in [Wifi](#) and are optimized for browsing the [Web](#) and [Email](#).

Netiquette: Etiquette on the [Internet](#). An code of behaviour for people communicating by email via the Internet. There are several useful publications relating to *netiquette*. See [Section 14.1.4, Module 1.5](#), headed *Netiquette*.

Netizen: Derived from the term citizen, referring to a citizen of the [Internet](#), or someone who uses networked resources. The term connotes civic responsibility and participation.

Netscape: An early Web [Browser](#), which first appeared in 1994, shortly after the World Wide Web went public.

Network: A group of computers connected together, either by physical connections such as cables, or by wireless connections (see [Wifi](#)). The [Internet](#) is a worldwide network of computers to which virtually any computer can be connected. See [Intranet](#), [LAN](#), [MAN](#), [WAN](#), [World Wide Web](#).

Newsgroup: A type of public online *forum* which anyone can read and contribute to. All users of a *newsgroup* can post messages, and every user can read all the messages that have been posted. Many newsgroups are distributed worldwide by the Usenet system: <http://www.usenet.org.uk>. Newsgroups have now been superseded to a large extent by blogs and electronic discussion lists. See [Blog](#), [Discussion List](#), [Forum](#).

NGfL: Abbreviation for [National Grid for Learning](#).

Ning: A platform that enables you to create your own [Social Network](#). A Ning enables anyone to create a network focusing on a particular topic or catering for a specific membership, for example a group of teachers working together on an educational project. Typically, a Ning includes blogs, announcements of events, a forum, live chat and facilities for uploading photographs and video clips. Examples of educational Nings include EUROCALL/CALICO Virtual Worlds Special Interest Group, AVALON and NIFLAR: see [Section 14.2.1 \(iii\), Module 1.5](#). The word "Ning" derives from the Chinese word for "peace": <http://www.ning.com>. [Section 12.4, Module 1.5](#), headed *Social networking*.

NLP: Abbreviation for [Natural Language Processing](#).

Notebook Computer: A type of [Laptop Computer](#), but lighter and thinner - and therefore easy to carry around. See [Netbook](#), an even smaller and lighter computer.

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O

OCR: Abbreviation for [Optical Character Recognition](#).

Offline: Not connected to a computer or network of computers. Often used in the sense of working with software stored on a stand-alone computer. For example, if you use a package such as *Microsoft Word* you are working with *offline* software, and if you use learning materials stored on [CD-ROM](#) you are also working *offline*. Contrasted with [Online](#). See [Section 1, Module 2.3](#), headed *What is the difference between online and offline?*

OILS: Abbreviation for [Open and Integrated Learning System](#).

Online: Connected to a computer or network of computers, especially the [World Wide Web](#). Often used in the sense of working with software stored at a remote location. For example, if you use learning materials stored at a website you are working *online*. Contrasted with [Offline](#). See [Section 1, Module 2.3](#), headed *What is the difference between online and offline?*

Online Learning: The use of the [Internet](#) to follow a course that usually results in the award of a diploma or certificate. Closely associated with the concept of [E-learning](#), which often - but not necessarily - implies some form of *online learning*, i.e. using [Email](#) and the [World Wide Web](#). E-learning, i.e. electronic learning, is a broader term, embracing the use of ICT in general in teaching and learning as well as online learning. See also [Blended Learning](#), [Distance Learning](#).

Open and Integrated Learning System (OILS): A variant of [Integrated Learning System](#). The word *Open* adds an extra dimension, indicating that the user can access the system freely and leave it at any time.

Open Source: Used to describe [Software](#) that is provided free of charge, along with the original [Source Code](#) used to create it so that anyone modify it to improve it and work in ways that reflect their own preferences. [Moodle](#) is a typical example of open source software.

Operating System (OS): A suite of programs that starts up when you switch on your computer and manages and runs all the other programs installed on the computer. *Windows* is the *operating system* developed and produced by the Microsoft Corporation. See [Windows](#).

Optical Character Recognition (OCR): OCR software is used conjunction with a *scanner* to convert printed text into digital format. For example, a page from a printed book can be placed on the scanner and the OCR software will be used by the scanner to detect the individual words from which it is made up and then convert them into a form that can be stored on a computer, e.g. a *Word* document. A great time-saver! See [Scanner](#).

Optical Disk or Optical Disc: The generic name for a type of computer disk which uses a laser to read and write data. See [CD-ROM](#), [Digital Video Disk](#), [Videodisc](#), all of which are *optical disks*.

OS: Abbreviation for [Operating System](#).

Outlook: A popular [Email](#) program, part of the [Microsoft Office](#) suite of programs.

Output: Anything that comes out of a computer after being processed. Also used as a verb. See [Input](#).

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P

Package: Loosely speaking, a program or suite of programs such as *Microsoft Office*, but often has the sense of a set of programs designed to be used by people who wish to use the package in different ways.

Partial Matching: In [CALL](#), a form of matching in which a character-by-character comparison of the learner's input at the keyboard is made with what is stored in the computer. This enables errors to be pinpointed with greater accuracy. See [Fuzzy Matching](#), [Matching](#). See [Section 1.2, Module 1.4](#), headed *Interactivity*.

Pathname: The pathname of a [File](#) on a computer specifies exactly its position on disk, and consists of at least three parts: (i) drive letter, (ii) directory, and (iii) filename, e.g. `c:\windows\user.exe`. One or more subdirectories may also be included in a pathname, e.g. `c:\windows\system\user.exe`. See [Directory](#), [Folder](#).

PC: Abbreviation for [Personal Computer](#).

PCB: Abbreviation for [Printed Circuit Board](#).

PDA: Abbreviation for Personal Digital Assistant. A handheld device that combines computing, telephone/fax, and networking features and serves as an organiser for personal information.

PDF: An abbreviation for Portable Document Format. This is a file type created by Adobe that allows fully formatted documents to be transmitted across the Internet and viewed on any computer that has Adobe *Acrobat Reader* software - a proprietary software viewing program available for free at the Adobe website: <http://www.adobe.com/uk/>. Businesses and educational institutions often use PDF-formatted files to display the original look of their brochures or for publishing a complete magazine in electronic format. Using the full Adobe *Acrobat* software package, it is possible to create a high-quality piece of artwork or a brochure which preserves the look of the original, complete with fonts, colours, images, and formatting. Documents in PDF format can be published on the Web without having to be converted into [HTML](#). PDF files can be distributed via *email*, *CD-ROMs* and *local area*

networks. They can also contain *hyperlinks*, [QuickTime](#) movies and sound clips. See [Hyperlink](#).

Pen Drive: An alternative term for [Flash Drive](#).

Pentium: A generic name for a faster type of [Personal Computer](#) that superseded the earlier 486 range of slower computers. Essential for running modern multimedia software and accessing the [Internet](#).

Peripheral Device: Often abbreviated to *peripheral*. Virtually any device which can be connected to a computer. This term includes modems, printers, scanners, interactive whiteboards, etc. See [Interactive Whiteboard](#), [Modem](#), [Printer](#), [Scanner](#). See [Section 1.3, Module 1.2](#) for further information on peripheral devices.

Personal Computer: The generic term for IBM-compatible microcomputers. See [Microcomputer](#), [Multimedia Personal Computer](#).

Personal Learning Environment (PLE): A PLE, unlike a [Virtual Learning Environment \(VLE\)](#), is not so much a package or system for *delivering* learning materials, rather it is an *approach* to using new technologies that enables learners to develop and control their own learning environment. This does not preclude the presence of teachers. Teachers play the role of providing support for learners in setting their own goals targets and helping them manage the content and process of learning. The use of [Social networking](#) tools and [Mobile Assisted Language Learning \(MALL\)](#) for communication both with teachers and peers are also key elements of a PLE. See the [ICT4LT blog](#) under the topic heading [The VLE is dead. Long live the PLE!](#) (July 2009). **PLN (Personal Learning Network)** is a relatively new term that has come into fashion, describing networks that people build up themselves using a range of [Social Networking](#) tools.

Pixel: A contraction of *picture element*. What you see on a computer [Display Screen](#) is made up of thousands of coloured *pixels* or small dots, which can be set according to the user's choice to produce either low-resolution output, medium-resolution output or high-resolution output, the usual combinations of pixels across each line of the screen (horizontal pixels) and down each line of the screen (vertical pixels) being 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024. Thus, the more pixels on the screen the higher the *resolution* (i.e. producing a finer, sharper image) and the greater the variety of colours that can be displayed. See [Bitmap](#), [Resolution](#), [Vektor Graphic](#).

Platform: Often used as an alternative term for a computer system, including both the hardware and the software. Essentially this term describes something that is used to build something else. The term *platform-independent* - used to describe software - means that the software can be run on any computer. The term *learning platform* refers to the technology used to provide a single online location at which course resources can be made available to learners. These resources can include course materials, communications tools such as [Email](#) and [Conferencing](#), and a storage area for learners' work. The term [Virtual Learning Environment \(VLE\)](#) may also be used synonymously with the term [Learning Platform](#).

PLE: Abbreviation for [Personal Learning Environment](#).

Plug-in: An extra piece of software that a Web [Browser](#) needs to run certain elements of a Web page. Web pages incorporating multimedia files often need to use [Flash Player](#), [QuickTime](#), [RealPlayer](#) or [Shockwave Player](#) as *plug-ins*. Sites that require a plug-in usually provide a link to a site from which the essential plug-in can be downloaded. See [Section 6.8, Module 1.5](#), headed *Do you need plug-ins?*

Podcast: A *podcast* is a broadcast digital audio recording, usually in [MP3](#) format, made available via the [Web](#) in a way that allows the recording to be downloaded automatically for listening at the user's convenience. Cf. [Vodcast](#), which is a broadcast digital video recording, usually in [MPG](#) format. However, the terms *podcast* and *vodcast* are often used loosely to describe digital audio and video recordings in general. Many broadcasting stations now offer podcasts and vodcasts, e.g. the BBC: <http://www.bbc.co.uk>. The term *podcast* takes its name from a combination of [iPod](#) (Apple's portable digital [Media Player](#)) and *broadcasting*, but podcasts and vodcasts do not necessarily require the use of an *iPod* or similar device. Podcasts and vodcasts can simply be downloaded to a computer and played using a standard [Media Player](#) program. See [Section 3.5.2, Module 2.3](#), headed *Podcasting*. See [RSS \(Really Simple Syndication\)](#).

Pointing Device: A device which allows the user to control the position of the [Cursor](#) on a computer screen by physical manipulation of the device in different directions. See [Joystick](#), [Mouse](#), [Trackball](#), all of which are pointing devices.

Pop-up: A small [Window](#) that appears within a program or over the top of a Web page to deliver additional information. Pop-ups on the Web can be annoying as they are often used for unwanted advertising material.

Portal: A Web page, website or service that acts as link or entrance to other websites on the [Internet](#). Typically, a portal includes an annotated catalogue of websites and may also include a [Search Engine](#), [Email](#) facilities, a [Forum](#) and other services. Also known as a [Gateway](#).

Postscript Printer: A type of [Printer](#) which is compatible with the Postscript language, a Page Description Language (PDL) favoured by the printing profession for the production of high-quality printed publications..

Powered Microphone: See [Condenser Microphone](#). See [Section 1.2.4, Module 1.2](#) for further information on microphones.

PowerPoint: The name of a [Presentation Program](#) forming part of the [Microsoft Office](#) suite of programs. See [Section 7, Module 1.3](#), headed *Using PowerPoint*, and [Section 4, Module 1.4](#), headed *Whole-class teaching and interactive whiteboards*.

PPM: Abbreviation for Pages Per Minute. A measure of the output speed of printers.

Presentation Program / Presentation Software: Used to describe software such as [PowerPoint](#), part of the [Microsoft Office](#) suite of programs. *Presentation Software* is used in conjunction with a [Data Projector](#) and a wall screen or [Interactive Whiteboard](#) in order to display a series of slides relating to a business presentation, a lesson or lecture. See [Section 7, Module 1.3](#), headed *Using PowerPoint*, and [Section 4, Module 1.4](#), headed *Whole-class teaching and interactive whiteboards*.

Printed Circuit Board (PCB): A thin ceramic plate on which electronic components are fixed by solder and connected via metal strips. PCs contain several PCBs, of which the most important is the [Motherboard](#).

Printer: More or less self-explanatory. An external device attached to a computer for device for producing printed output or [Hardcopy](#). See [Dot Matrix Printer](#), [Ink Jet Printer](#), [Laser Printer](#), [Postscript Printer](#). See [Section 1.3.1, Module 1.2](#) for an illustration of a printer.

Printout: Anything produced on a printer after being processed by a computer program. See [Hardcopy](#).

Processor: See [Central Processing Unit \(CPU\)](#), [Microprocessor](#).

Program: The American spelling is standard in computer jargon, enabling a useful distinction to be made in British English between a *computer program* and a *programme* in the sense of a *programme of study*. A talk with the title "Turning programmes into programs" (or maybe it was the other way round) was presented by a British Council officer at the annual TESOL conference in the USA in 1987 - which puzzled the American audience but made sense to the British participants. See [Computer Program](#).

Programmed Learning: Also referred to as *programmed instruction*. A teaching method involving a pre-constructed sequence of steps and associated feedback, based to a large extent on the behaviourist ideas of B.F. Skinner. The steps in the learning process are usually self-administered and self-paced, the learner being presented with information in small manageable pieces and only progressing to the next piece of information when s/he has successfully demonstrated that the current piece of information has been understood. Early [Computer Assisted Instruction \(CAI\)](#) was based to a large extent on programmed learning.

Programming Language: A formal, structured, English-like language in which computer programs are written. The instructions, known as *code*, are converted into binary machine instructions via a *compiler* or an *interpreter*. C++, Pascal, and BASIC, are examples of popular programming languages. See [Compiler](#), [Interpreter](#). Distinguished from [Authoring Package](#), which enables a non-programmer to write [CALL](#) materials. See also [Module 2.5, Introduction to CALL authoring programs](#), and [Module 3.2, CALL software design and implementation](#).

Projector: See [Data Projector](#).

Protocol: In [Internet](#) terminology *protocol* usually refers to a set of rules that define an exact format for communication between systems. For example the *HTTP* protocol defines the format for communication between Web *browsers* and Web *servers*. See also [Browser](#), [FTP](#), [HTTP](#), [Server](#).

Public Domain: Material that is copyright free, whose copyright has expired, or which cannot be copyrighted. Many people think that because something is on the Web it must be in the public domain. This is not so. A work is in the public domain only if it is explicitly stated to be so. You may be lucky to find material on the Web that is stated to be copyright-free or in the public domain, and then the terms of using it are much more liberal. Look for a clear statement saying "The materials on this website are in the public domain" or something similar. If you wish to use materials from someone else's website, check the terms of use,

which you will usually find at the bottom of the Web page or via a clickable link at the bottom of the page. See [Copyright](#).

PVP: Abbreviation for Portable Video Player. A hand-held device for storing and playing back movies.

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QuickTime: Software used for viewing movies and listening to audio recordings: <http://www.apple.com/quicktime>. **QuickTime** is often needed as a [Plug-in](#), when you are accessing audio or video materials on the Web. See also [RealPlayer](#)

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RAM: An acronym for Random Access Memory, referring to the dynamic memory in the silicon chips in a computer. RAM chips are the memory chips used as the temporary working area for running and developing programs. Data in RAM can be read and written to (i.e. changed) in microseconds, as opposed to the much slower data access times for disks, but RAM's contents disappear the moment the computer is switched off. The more RAM a computer has, the more flexibility the user has. RAM used to be measured in *kilobytes (KB)* but now it is usually expressed in *megabytes (MB)* and even *gigabytes (GB)*. The amount of RAM a PC has could crudely be thought of as its "mental capacity". See [Gigabyte](#), [Kilobyte](#), [Megabyte](#). See [ROM](#). See [Section 1.1.1.2, Module 1.2](#) on RAM on ROM.

Random Access Memory (RAM): See [RAM](#).

RGB: Abbreviation for Red Green Blue. The name given to the [Additive Colour](#) system that is used to display colours on computer screens, where red, green and blue light of varying intensities is combined to produce millions of other colours. See [CMY](#), [Cathode Ray Tube](#), [Subtractive Colour](#).

Read Only Memory (ROM): See [ROM](#).

RealPlayer: A [Media Player](#) used for listening to audio and video clips: <http://uk.real.com/realplayer/>. See [Plug-in](#). See also [QuickTime](#).

Relative Link: A term used mainly by Web authors. In an [HTML](#) document a *relative link* indicates the location of a file relative to the document, whereas an [Absolute Link](#) specifies the full URL. For example, the relative link of this Glossary to the ICT4LT homepage is [../en/en_glossary.htm](#) whereas it's [Absolute Link](#) is

http://www.ict4lt.org/en/en_glossary.htm. It's generally better for Web authors to link to files within the same website using relative links rather than absolute links, as this makes site and file maintenance easier. See [Section 5.4, Module 3.3](#), headed *Shared resources*.

Repurpose: To reuse content in a different way from that which was originally intended, e.g. materials for training French native skills in business management might be *repurposed* for teaching non-native speakers advanced level French. An example of repurposing is described here: Davies G. (1989) "Repurposing a videodisc for French language teaching". In Kécskés I. & Agócs L. (eds.) *New tendencies in CALL*, Debrecen, Hungary: Kossuth University. Available as a *Word* document: [Debrecen.doc](#)

Response Analysis: A feature of [CALL](#) programs whereby the computer attempts to diagnose the nature of errors the learner makes and to branch to remedial exercises. This approach to CALL appears to have fallen out of fashion in recent years. See [Error Diagnosis](#), an alternative term with a similar meaning.

Resolution: A measure of the number of *pixels* or small dots displayed on a computer *display screen*, *printer* or *scanner*. One normally talks in terms of the quality of resolution, using the expression *low-resolution*, *medium-resolution* and *high-resolution*. The resolution of a computer *display screen* is normally expressed as two numbers representing the horizontal and vertical resolution, i.e. dots across each line of the screen and down each line of the screen: e.g. 640 x 480, 1024 x 768, etc. The resolution of a [Printer](#) is normally referred to by the number of *dots per inch (dpi)* - i.e. square inch. See [Bitmap](#), [Colour Depth](#), [Display Screen](#), [dpi](#), [Pixel](#), [Scanner](#), [Vektor Graphic](#).

Reusable Learning Object (RLO): A self-contained piece of learning material with an associated learning objective and which is capable of being reused in a variety of applications. See [Learning Object](#).

Rip: To extract or copy data from one format to another. The most common example is found in the phrase "to rip a CD", which means to copy audio tracks from an audio CD and save them to hard disk as [WAV](#), [MP3](#) or other audio files, which can then be played, edited or written back to another CD.

RLO: Abbreviation for [Reusable Learning Object](#).

RM: A file format used for playing *streaming audio* and *streaming video* using the [RealPlayer](#) software. See [Streaming](#). RM format enables content to be delivered as a continuous flow of data with little wait time before playback begins. This means that you do not have to wait for your audio and video files to fully download before starting to view them. See [ASF](#), [AVI](#), [MOV](#), [MPEG](#), which are alternative video file formats. See [Media Player](#). See [Section 2.2.3.4, Module 2.2](#), *Video editing software*.

Robot: See [Crawler](#).

ROM: Acronym for Read Only Memory. ROM chips in a computer contain data and programs as supplied by the manufacturer that can be accessed but not changed, i.e. they are *read-only*. ROM is also used to describe [CD-ROMs](#). Originally CD-ROMs contained data and programs that could not be changed or erased, and new data and programs could not be stored on them, but modern CD-ROM drives allow certain types of CDs (and also [DVDs](#)) to be

written to as well as *read* - so the term has become a misnomer in this respect. See also [RAM](#) and [Section 1.1.1 \(iii\), Module 1.2](#) on the difference between RAM and ROM.

Root Directory: The topmost directory in the directory hierarchy, from which all other directories are descended. On a PC's hard disk this has the pathname C:\. See [Directory](#).

Router: A hardware device that connects computers to a [Network](#) or that connects one network with another network. *Routers* are now available at low prices and can be used for connecting two or more computers together in home networks, so that data can be exchanged between the computers on the network and so that all the computers in the network can access the [Internet](#).

RSS (Really Simple Syndication): RSS is a development in Internet technology that enables users to subscribe to websites that change or add content regularly, for example news sites (such as the BBC) and sites containing *blogs*, *Nings*, *podcasts* and *wikis*: see [Blog](#), [Ning](#), [Podcast](#), [Wiki](#). RSS makes use of software that presents new additions to a website as list of subject headings or the first line or two of a news item, with a clickable link to the full article, blog posting or podcast. Thus, instead of the user having to browse websites for new information in which s/he is interested, an update of what is available is made available directly to the user, an *RSS feed* or *news feed*. An application known as an *aggregator* or *feed reader* (e.g. **Google Reader**) can check RSS-enabled websites and display any updated information that it finds. See [Section 12.5, Module 1.5](#) and [Section 3.5.4, Module 2.3](#) for further information.

RTF: Abbreviation for Rich Text Format, an alternative way of storing a document created with a [Word-processor](#). RTF-formatted files can be moved relatively easily between different computer systems. RTF format is also recommended when transmitting an [Attachment](#) by [Email](#) as it is much safer than the *Microsoft Word DOC* format, which can harbour *Word Macro* viruses. RTF files preserve most of the formatting contained in DOC-formatted files. See [Virus](#).

RTFM: Abbreviation for Read The Friendly/Fine/Fantastic Manual - but if you do a search via [Google](#) you'll find a much ruder interpretation of the abbreviation. Enter **define:RTFM** in *Google's* search box and you'll see what we mean!

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Sampling: This term refers to taking the value of a waveform (e.g. a sound wave or video signal) at one instant, and recording the amplitude, or height, of the wave at that instant as a number so that a digital recording can be produced. This is the way in which audio files in digital format are produced. You will probably come across this term when using software for creating or editing sound files. See [MP3](#), [Sampling Frequency](#), [WAV](#), [WMA](#). See [Section 2.2.3.3, Module 2.2](#), headed *Sound recording and editing software*.

Sampling Frequency or Sampling Rate: The number of times a waveform is *sampled* per second, usually expressed in *kiloHertz* (kHz). You will probably come across this term when using software for creating or editing sound files. The *sampling frequency* measurement usually ranges from 8kHz (a telephone quality recording) to 48kHz (CD quality recording or higher). The sampling frequency measurement is combined with another measurement, the *bit size* (usually 16 bits nowadays), to determine how much space an audio file consumes on a hard disk as well as how much processing time is required to play it. The higher the figure in kHz the better the quality of recording and how much space the recording occupies. Speech can be recorded adequately at 22.05kHz, but music is better recorded at 44.1kHz or higher. See [Hertz](#), [MP3](#), [Sampling](#), [WAV](#), [WMA](#). See [Section 2.2.3.3, Module 2.2](#), headed *Sound recording and editing software*.

Sans Serif: A type of [Font](#), e.g. Arial, that is characterised by an absence of cross-lines (twiddly bits) on the ends of its letters and symbols. See [Serif](#).

Scanner: A device used to convert hard copy, e.g. a printed page, photograph or photographic negative, into a form that can be stored on a computer. See [Section 1.3.3, Module 1.2](#) for further information and an illustration. See [Optical Character Recognition \(OCR\)](#).

SCORM: Acronym for Shareable Content Object Reference Model. SCORM is a suite of technical standards that enable Web-based learning systems to find, import, share, reuse, and export learning content in a standardised way. Essentially, SCORM is a standard that ensures that when you buy a new piece of software it can easily be incorporated into your existing Web-based learning materials or VLE - which will probably remain a vain hope for the foreseeable future, at least until VLEs become compatible with one another. SCORM-compliance is, however, only essential if you are particularly interested in tracking students' performance. See this Web page created by Philip Dodds: <http://adlcommunity.net/mod/resource/view.php?id=458>

Screen: See [Display Screen](#), [Monitor](#).

Scroll: To move up and down or from side to side through a document or a [Window](#) to view or access all of its contents

Search Engine: A search facility provided at a number of sites on the *World Wide Web*. Search engines enable the user to search the whole of the Web for key words and phrases and to locate related websites. This is a useful facility for locating information. Commonly used search engines are provided by Alta Vista, Ask, [Google](#), Lycos and Yahoo. See [Section 4, Module 1.5](#), headed *Search engines: How to find materials on the Web*.

Second Life: One of the fastest growing "virtual worlds" on the Web. See the entry in this Glossary under [MUVE](#) and see [Section 14.2.1, Module 1.5](#). The Second Life website is at: <http://secondlife.com>. See also [SLURL](#).

Semantic Web: The *Semantic Web* is not a new type of Web, but rather an extension of the Web whereby data available in different locations on the Web is linked together in a way that allows the user to search the Web in a more sophisticated way, e.g. by requesting information in forms such as "Tell me where I can find information about 21st-century writers who live within 50 miles of my home town": <http://www.w3.org/RDF/FAQ>. Listen to Sir Tim Berners-

Lee on the BBC **Today** programme, 9 July 2008, talking about the Semantic Web:
http://news.bbc.co.uk/today/hi/today/newsid_7496000/7496976.stm

Serif: A type of [Font](#), e.g. Times News Roman, that is characterised by the presence of cross-lines (twiddly bits) on the ends of its letters and symbols. See [Sans Serif](#).

SEN: Abbreviation for Special Educational Needs. See David Ritchie Wilson's website, which has a substantial section on teaching Modern Foreign Languages to SEN children:
<http://www.specialeducationalneeds.com>

SENDA: Abbreviation for the Special Educational Needs and Disability Act (2001), which has a vital role in improving accessibility for a wide range of computer users with special needs and obliges designers of educational websites "to make reasonable adjustments to ensure that people who are disabled are not put at a substantial disadvantage compared to people who are not disabled." See JISC's website on disability legislation:
<http://www.jisclegal.ac.uk/disability/accessibility.htm>. See [Accessibility](#), [Assistive Technology](#), [Text To Speech \(TTS\)](#).

Server: A computer which provides services to other computers, which are known as *clients*. For example, when you click on a link in a Web page your [Browser](#) sends a request to a remote computer, known as a [Web Server](#), that *serves* the requested page to your browser, which then displays it on your computer screen. A [Local Area Network \(LAN\)](#) has a *server* that delivers software to the computers (also known as workstations) that are connected to it. It is usually the most powerful computer in the network. Users connected to a LAN can access their own files remotely and exchange information with the server and other users connected to the network. See [Client](#), [Web Server](#).

Setup Program: A program that enables the user to set up a program or suite of programs on the computer's hard disk. Also known as [Install Program](#) or [Installation Program](#).

Shareware: Try before you buy software. A Shareware application can be freely copied and used without payment to the author(s), but you are encouraged to pay a registration fee if you use it regularly. Shareware is often a cut-down copy of the fully-featured application, which can only be obtained by paying the registration fee. See [Freeware](#).

Shockwave Player: Software developed by Adobe that enables Web pages containing interactive multimedia materials to be played on the Web. Such materials may contain games, product demonstrations and online learning applications. See [Plug-in](#).

Silicon Chip: An encased piece of extremely pure silicon on to which electronic circuits are etched. The circuitry of modern computers is based on silicon chips that perform a vast range of different tasks. See [Chip](#), [Microchip](#), [Microprocessor](#).

Simulation: A type of program that simulates a real-life situation, allowing the user to carry out experiments which could have dangerous consequences or which are impractical in a normal learning environment. An early example of a simulation for language purposes was *Granville*, a program dating back to the 1980s in which the learner was asked to imagine that he/she had won a holiday in Granville, France, and had to survive for a number of days on a limited budget. The border line between simulations and *adventure games* is

rather fuzzy. The latter tend to be set in fantasy worlds, whereas the former are more down-to-earth. See [Adventure Game](#), [Maze](#).

SLURL: Second Life [URL](#). A special type of URL that enables you to find a location quickly in [Second Life](#), simply by pasting the SLURL into your [Browser](#). It is assumed that you have already downloaded and installed the Second Life software on your computer.

Social Media: Term used to describe a variety of Web 2.0 applications that enable people to share images, audio recordings and video recordings via the Web and to initiate discussions about them. See JISC's **Web2practice** video on **Blip TV**:
<http://web2practice.jiscinvolve.org/social-media/>

Social Networking: A term applied to a type of website where people can seek other people who share their interests, find out what's going on in their areas of interest, and share information one another. See [Section 12.4, Module 1.5](#), headed *Social networking*.

Software: The opposite to [Hardware](#). A generic term describing all kinds of computer programs, applications and operating systems. Software is not tangible, being a set of instructions written in a [Programming Language](#) comprising a set of instructions that the computer executes. See [Application](#), [Computer Program](#).

Sound Card or Soundcard: A *card*, i.e. an electronic circuit board, inside a computer that controls output to speakers or headphones and sound input from a [Microphone](#) or other source. A sound card is essential for multimedia applications. Also known as [Audio Card](#). See [Section 1.2.2, Module 1.2](#) for further information on sound cards.

Source Code: The human-readable form of a *computer program*, which is converted into binary computer instructions by a *compiler* or *interpreter*. See [Compiler](#), [Computer Program](#), [Interpreter](#), [Machine Code](#).

Spam: Unsolicited email advertisements, the Internet equivalent of junk mail. A *spammer* is someone who sends out spam. A spammer can email an advertisement to millions of email addresses, newsgroups, and discussion lists at very little cost in terms of money or time. The term *spam* comes from a sketch in the *Monty Python's Flying Circus* TV series. See [Adware](#), [Spambot](#), [Spyware](#). See <http://www.camsoftpartners.co.uk/bugs.htm>.

Spambot: A *spambot* is a program designed to collect email addresses from the Internet in order to build mailing lists for sending [Spam](#). A spambot is a type of Web [Crawler](#) that can gather email addresses from websites, discussion list and forum postings, and chat-room conversations.

Speech Recognition: A branch of [Human Language Technologies \(HLT\)](#) devoted to developing programs and devices that enable computers to recognise, analyse and transcribe human speech. See [Automatic Speech Recognition \(ASR\)](#), [Speech Synthesis](#). See [Section 4, Module 3.5](#), headed *Speech technologies*.

Speech Synthesis: A branch of [Human Language Technologies \(HLT\)](#) devoted to developing programs and devices that enable computers to generate human speech.. See [Speech Recognition](#). See [Section 4, Module 3.5](#), headed *Speech technologies*.

Spellchecker or Spell-checker: An electronic dictionary, usually part of a [Word-processor](#), which scans the text entered by the user and highlights any word that it does not recognise. The author of the text is then given the option to correct, ignore or add any highlighted word to the dictionary. Spellcheckers can be set to accommodate different varieties of a language, e.g. British or American English, and many other languages. Many email packages also include a spellchecker. See [Section 6.1, Module 1.3](#), headed *Spellcheckers, grammar checkers and style checkers*.

Spider: See [Crawler](#).

Splog: A contraction of *spam blog*. See [Spam](#) and [Blog](#). The splog site creator (splogger) begins by finding a subject that attracts lots of visitors. Then the splogger sets up a blog which plagiarises content from other sites dealing with this subject. Splogs may consist of hundreds of blogs with plagiarised content, containing multiple links to selected websites. This feeds search engines such as [Google](#) and *Yahoo* and creates artificially high search rankings for the linked sites and helps get them indexed. Splogs also contain clickable advertisements. In other words, it's spam in the form of a blog: Visit the splog site, click on a link that it contains or click on an advertisement at the site, and you're making money for the splogger.

Spreadsheet: Essentially an accounting program, e.g. *Excel*, which forms part of the [Microsoft Office](#) suite of programs. Such programs might, at first sight, not appear to have a great deal to offer the language teacher, but bear in mind that they can also be used for organising vocab lists and for maintaining students' marks or grades. See [Section 4, Module 4.1](#), headed *Reporting and recording students' progress*.

Spyware is a term that may be used synonymously with *adware* but it implies more sinister motives on the part of the person who has dumped it onto your computer, e.g. with a view to stealing private information such as bank account numbers, credit card numbers, passwords, etc. See [Adware](#), [Spam](#). See <http://www.camsoftpartners.co.uk/bugs.htm>, where tools for removing *adware* and *spyware* are described. *Spybot Search & Destroy* (*Spybot S&D*) is a free program designed to find and remove spyware stored without your knowledge on your computer: <http://www.safer-networking.org>

Storage Device: Equipment used for accessing and recording (i.e. *storing*) computer programs, texts, images, audio recordings and video recordings, etc in [Digital](#) format. Examples of storage devices include [CD-ROMs](#), [DVDs](#), [Floppy Disks](#), [Flash Drives](#). Older storage devices, such as the vinyl gramophone record, audiocassette tape, videocassette tape and 12-inch [Videodisc](#), store information in [Analogue](#) format. The term [Storage Medium](#) is often used in the same sense as *Storage Device*.

Storage Medium (sing.) / Storage Media (pl.): A *medium* (pl. *media*) which is used to record (i.e. *store*) computer programs, texts, images, audio recordings and video recordings, etc. Examples include [CD-ROMs](#), [DVDs](#), and [Flash Drives](#). Often used in the same sense as [Storage Device](#), although, strictly speaking, the *device* is the actual equipment, e.g. a CD-ROM drive, whereas the *medium* is the CD-ROM disk itself.

Streaming: Playing audio or video in real time from a website. In order to play streaming multimedia files you need a specific [Plug-in](#) program that links in with your [Browser](#) and plays the file as it is transmitted rather than downloading it to your computer first. Streaming requires a [Broadband](#) connection to the Internet since multimedia files are not stored on your

computer but played in a continuous stream direct from the computer where they are stored. See [Section 2.2.3.4, Module 2.2](#), *Video editing software*.

Subtractive Colour: A term used mainly by graphic designers. *Subtractive colour* is produced by the subtraction of colours from incident light. A tomato appears red in daylight because it absorbs all other colours in white light other than red, which it reflects. See [Additive Colour](#), [CMY](#), [RGB](#).

SVGA: Abbreviation for Super Video Graphics Adaptor. An older type of [Video Card](#) or circuit board used to control the output on a computer [Display Screen](#). See also [VGA](#). See [Section 1.1.1.4, Module 1.2](#), under the heading *Graphics card*.

Synchronous: "At the same time". Often used to refer to communication in a [Chat Room](#) or via [Videoconferencing](#), where the participants have to be present at their computers at the same time. See [Asynchronous](#), [Conferencing](#). See [Section 14, Module 1.5](#), headed *Computer Mediated Communication (CMC)*.

Sysadmin: A contraction of Systems Administrator, the person responsible for managing a computer system.

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T

Tag: *Tagging* has become more common in recent years as a result of the widespread use of [Social Media](#) for sharing images, audio recordings, video recordings, website references, etc. *Tags* are labels that briefly describe the what the media or references are all about and help other people find them quickly. Tags are also used in [HTML](#), to define how the onscreen text is rendered by the browser: for example the tag `ICT4LT` in HTML appears as [ICT4LT](#), with the tag hidden to the person viewing the Web page. See [Attribute](#).

Tandem Learning (Buddy Learning): A form of learning in which two language learners pair up in order to learn each other's language. This may take place face-to-face or via the Internet, including using virtual worlds such as [Second Life](#). See [Section 14.9, Module 1.5](#), headed *Tandem learning (buddy learning)*.

TCP/IP: Abbreviation for Transfer Control Protocol / Internet Protocol. The main data transfer protocol used on the Internet. See [Internet](#), [Protocol](#).

Techie or Tekkie: A colloquial term that is used both positively and negatively. When used positively, it is closely allied to [Nerd](#), suggesting someone who is highly skilled in computer technology. When used negatively, it is closely allied to [Anorak](#) or [Trainspotter](#), suggesting someone who is interested in computers only for technology's sake rather than what they can be used for. See also [Geek](#).

TELL: Acronym for Technology Enhanced Language Learning. A term which is felt to embrace a wider range of uses of technology in language learning and teaching than the more common term, [CALL](#). TELL figures in the name of the journal of CALL Austria, *TELL&CALL*, and was also adopted by the TELL Consortium (now defunct), University of Hull. See [CALI](#), [CELL](#).

Telnet: A program which allows you to log in to a remote [Host](#) computer and carry out the same commands as if you were using a terminal at the host site.

Text File or **Textfile:** A data file consisting entirely of printable ASCII characters, i.e. plain unformatted text. Text files often have a **.txt** [Extension](#) after the filename (e.g. **readme.txt**) and their contents can be viewed using programs such as *Windows Notepad*. The term *text file* is also used to describe files, i.e. texts, created by authoring packages such as *Fun with Texts*, which then *manipulates* the texts into a set of activities for completion by the learner. See [ASCII](#), [Binary File](#). See next entry and see [Section 8, Module 1.4](#), headed *Text manipulation*.

Text Manipulation: Text-manipulation programs have been popular with language teachers since the early 1980s. They consist of a set of activities for the learner, typically consisting of [Cloze](#), gap-fillers, line re-ordering, decoding and total text reconstruction, also known as: [Total Cloze](#). In most text manipulation programs the teacher inputs the text, and the computer then creates the activities - or most of them - automatically. See also [Gap-filler](#). See [Section 8, Module 1.4](#), headed *Text manipulation*.

Text Maze: See [Maze](#).

Text to Speech (TTS): TTS software enables text to be read out loud from a computer screen by a synthetic voice. TTS software falls into the category of [Assistive Technology](#), which has a vital role in improving [Accessibility](#) for a wide range of computer users with special needs - which is now governed by legislation in the UK. The [Special Educational Needs and Disability Act \(SENDA\)](#) of 2001 covers educational websites and obliges their designers "to make reasonable adjustments to ensure that people who are disabled are not put at a substantial disadvantage compared to people who are not disabled." See JISC's website on disability legislation: <http://www.jisclegal.ac.uk/disability/accessibility.htm>. TTS technology is also used in satellite navigation (satnav) devices that are installed in cars, i.e. to give instructions and read out road and street names. See [Section 4, Module 3.5](#), headed *Speech technologies*.

TFT: Abbreviation for Thin Film Transistor. A new technology used in manufacturing computer display screens of the flat panel type, which is replacing the older [Cathode Ray Tube](#) type of display screen. In TFT screens each pixel is controlled by one to four transistors. TFT screens produce high-quality resolution and better, brighter colours than [LCD](#) screens. TFT screens are sometimes referred to as [Active Matrix](#) screens. See [Display Screen](#). See [Section 1.1.2, Module 1.2](#) for further information.

TIFF or **TIF:** Abbreviation for Tag Image File Format. A file format for storing images on a computer. TIFF files can store very high-quality images with millions of colours, but they are very demanding in terms of storage space. See [BMP](#), [EPS](#), [GIF](#), [JPEG/JPG](#). See also [Section 2.2.3., Module 2.2](#), *Introduction to multimedia CALL*.

TM: Abbreviation for [Translation Memory](#).

Toolbar: A *toolbar* is a type of [Menu Bar](#), normally located at the top of a computer screen, that contains *icons* for the most commonly-used commands in an application, e.g. in a word-processor or [Browser](#). Typically, a toolbar appears under the [Main Menu Bar](#), which normally consists of set of names of drop-down menus. See [Icon](#).

Total Cloze: An activity in which a complete text is reduced to sets of blanks and which the learner has to reconstruct, either from memory or by using a variety of different strategies. *Total Cloze* figures in numerous CALL programs, many of which are available in suites of text manipulation programs such as **Fun with Texts** and **The Authoring Suite**, and also in activities found at various World Wide Web sites. See [Cloze Procedure](#). See [Section 8.3, Module 1.4](#), headed *Total text reconstruction: total Cloze*.

Touch-sensitive Screen: A [Display Screen](#) which enables the computer to react to the touch of a finger. Useful, for example, in programs involving maps, where the learner may be asked to touch part of the map to show where a town, river or mountain is located.

Trackball or Tracker Ball: A [Pointing Device](#). A sort of upside-down [Mouse](#), with the ball facing upwards. The user manipulates the track of the [Cursor](#) on the screen by moving the ball with the palm of the hand or fingers.

Trainspotter: A colloquial term that is often used to describe someone who is fascinated by the technology of computers but not particularly interested in their applications. A synonym is [Anorak](#). Both terms are closely allied to [Geek](#), [Nerd](#) and [Techie](#) - which have slightly different connotations.

Translation Memory (TM): Used to describe a form of [Machine Assisted Translation \(MAT\)](#), which is based on matching texts to be translated with a large database of source texts and translations that have already been completed. See [Section 3, Module 3.5](#), headed *Machine Translation*.

Trojan: Trojans are programs - usually malicious - that install themselves or run surreptitiously on a victim's machine. They do not install or run automatically but may entice users into installing another program. e.g. a game, that actually installs a hostile piece of software and causes considerable damage to your computer. The name derives from Trojan Horse, the hollow wooden horse in which, according to legend, Greeks hid and gained entrance to Troy, later opening the gates to their army. See [Virus](#), [Worm](#).

Troll: A *troll* is someone who intentionally posts derogatory or provocative messages in an online community such as a [Discussion List](#) or [Forum](#) or [Blog](#) to bait other users into responding. See [Flame](#), a term which may be used to describe the language used by trolls. See [Section 14.1.4, Module 1.5](#), headed *Netiquette*.

TTS: Abbreviation for [Text To Speech](#).

Twitter: A [Microblogging](#) facility that allows users to post very short texts (maximum 140 characters) containing snippets of information about what they are doing at a given moment, news items, links to websites or comments on events, e.g. conferences and courses: <http://twitter.com>

Typeface: See [Font](#).

U

Unicode: The Unicode Worldwide Character Standard is a character coding system designed to support the interchange, processing, and display of the written texts of the diverse languages of the modern world. In addition, it supports classical and historical texts of many written languages: <http://www.unicode.org>. See [ASCII](#) and [ANSI, Section 5, Module 1.3](#), headed *Typing foreign characters*.

Uninstall: A verb used to describe the process of removing an unwanted application from your computer's hard disk. See [Install](#), [Installation Program](#), [Uninstall Program](#).

Uninstall Program: Basically what it says: a program for removing (*uninstalling*) an unwanted application from your computer's hard disk. [Install](#), [Installation Program](#), [Uninstall](#).

Universal Serial Bus (USB): A means of connecting a wide range of devices, e.g. [Digital Cameras](#), [Camcorders](#), [iPods](#), mobile phones, [Scanners](#) and [Printers](#), via a cable to a computer. *USB ports*, to which the cables are connected, are found on all modern computers. A USB Port takes the form of a socket into which a plug at one end of the cable can be inserted. The plug at the other end varies according to the device that you are using. USB ports can also deliver power to devices that need it, so that separate power cables are not necessary.

Unix: An [Operating System](#) widely used on large computer systems in corporations and universities, on which many *Web servers* are hosted. A PC version of *Unix*, called [Linux](#), is becoming increasingly popular as an alternative to [Windows](#). See [Web Server](#).

Upload: To transfer a copy of a computer program, a text file, an image file, a sound file or a video file from one computer to another computer. This term can also be used to describe the process of: (i) transferring a photograph from a digital camera to a computer, (ii) transferring a sound recording from a digital sound recorder to a computer, and (iii) transferring a video recording from a [Camcorder](#) or [Digital Camera](#) to a computer. See [Download](#), which has the opposite meaning.

URL: Abbreviation for Uniform Resource Locator. Also known as a [Web Address](#). A URL contains the location of a resource on the [Internet](#). A URL specifies the address of the computer where the resource is located, which may be the homepage of a website, e.g. <http://www.ict4lt.org>, or a sub-page, e.g. http://www.ict4lt.org/en/en_mod2-1.htm. The **http://** prefix can usually be omitted from a URL when it is entered in a [Browser](#). See also [SLURL](#) and [Website](#).

USB: Abbreviation for [Universal Serial Bus](#).

User-friendly: Mainly used to describe [Software](#). Software that is easy to use and offers guidance if the user does silly things is described as user-friendly. This term may also be applied to certain types of [Hardware](#).

User Interface: See [Interface](#).

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V

VDU: Abbreviation for [Visual Display Unit](#).

Vector Graphic: A method of creating graphic images on a computer by telling it to draw lines in particular positions. An advantage of a *vector graphic* is that it can be enlarged or reduced in size without loss of sharpness or distortion. Most modern image creation and editing packages can save images in vector graphic format. Vector graphics can be contrasted with *bit-mapped graphics*, which are made of a fixed number of pixels (small dots), and therefore sharpness may be lost when the image is resized. See [Bitmap](#), [Pixel](#).

VGA: Abbreviation for Video Graphics Adaptor. An older type of [Video Card](#) or circuit board used to control the output on a computer [Display Screen](#). VGA cards were superseded by [SVGA](#) cards. See [Section 1.1.1.4, Module 1.2](#), under the heading *Graphics card*.

Video Card: An electronic circuit board inside a computer, which controls the display on the [Monitor](#), i.e. the computer screen. Video cards are usually add-on cards inserted into expansion slots, although sometimes video circuitry is incorporated into the [Motherboard](#). Usually referred to as a *graphics card* these days. See [Section 1.1.1.3, Module 1.2](#), under the heading *Graphics card*.

Videoconferencing or Video Conferencing: A computer-based communications system that allows a group of computer users at different locations to conduct a "virtual conference" in which the participants can see and hear one another as if they were in the same room participating in a real conference. See [Section 14.1.3, Module 1.5](#), headed *Videoconferencing: a synchronous communications medium*. See [Audioconferencing](#), [Conferencing](#), [Webcam](#).

Videodisc or Videodisk: A technically obsolete [Storage Medium](#), an [Optical Disk](#), 12 inches in diameter, used mainly to store still images or video clips. Now replaced by CD-ROMs and DVDs. See [CD-ROM](#), [Digital Video Disk](#), [Interactive Video \(IV\)](#).

Videodisc Player or Videodisk Player: Equipment used for accessing information - usually still images or video clips - stored on videodiscs. Now technically obsolete. See [Videodisc](#).

Video Memory: The dynamic memory available for the computer's [Display Screen](#). The greater the amount of memory, the greater the possible colour depth and resolution of the display. Also known as Video RAM (VRAM). See [Colour Depth](#), [RAM](#), [Resolution](#).

Virtual Learning Environment (VLE): A VLE is a Web-based package designed to help teachers create online courses, together with facilities for teacher-learner communication and peer-to-peer communication. VLEs can be used to deliver learning materials within an institution or within a local education authority. They may even address a wider constituency, and can even be used on a worldwide basis. VLEs have certain advantages in terms of ease of

delivery and management of learning materials. They may, however, be restrictive in that the underlying pedagogy attempts to address a very wide range of subjects, and thus does not necessarily fit in with established practice in language learning and teaching. For this reason some critics argue in favour of a less restrictive [Personal Learning Environment \(PLE\)](#). The two most widely used VLEs in language teaching and learning are [Blackboard](#) and [Moodle](#). VLEs may also be referred to as [Course Management System \(CMS\)](#), **Learning Management System (LMS)**, [Learning Platform](#) and **Learning Support System (LSS)**. Compare also [Managed Learning Environment \(MLE\)](#). See [Blended Learning](#), [Distance Learning](#), [Online Learning](#). See the following ICT4LT modules:

- [Section 7, Module 1.4](#) under the heading *Distance learning*
- [Section 8, Module 1.5](#) under the heading *Distance learning and the Web: VLEs, MLEs, etc*
- [Section 3.1, Module 2.3](#) under the heading *Web-based CALL*

Virtual Reality: The simulation of an environment by presentation of 3D moving images and associated sounds, giving the user the impression of being able to move around with the simulated environment. Users wear helmets and visors that convey the images and sound and gloves that give them the experience of touching objects. The film *Lawnmower Man* (1992) focused on a character experiencing virtual reality, albeit with negative consequences. See Wikipedia: http://en.wikipedia.org/wiki/Virtual_reality

Virtual World: A type of online three-dimensional imaginary world or game in which participants and players adopt amazing characters or *avatars* and explore the world, engaging in chat or playing complex games. See [Avatar](#), [MMORPG](#), [MUVE](#). See also [Section 14.2, Module 1.5](#) under the heading *Chat rooms, MUDs, MOOs and MUVEs*.

Virus: If you surf the Web, use email or [Storage Media](#) sent to you by other people, you need to be protected against virus invasions. A virus is a nasty program devised by a clever programmer, usually with malicious intent. Viruses can be highly contagious, finding their way onto your computer's hard drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages, e.g. Microsoft Word files, or direct from the Web. Be very wary of opening an email attachment of unknown origin, as this is the commonest way of spreading viruses. Software used to protect your computer against the invasion of computer viruses is known as *anti-virus software*. See [Firewall](#), [Hacker](#), [Worm](#). See <http://www.camsoftpartners.co.uk/bugs.htm>, where ways of combating viruses are described.

Visual Display Unit (VDU): A [Monitor](#) connected to larger computers. Usually referred to as VDU. Rather an old-fashioned term nowadays, [Display Screen](#) being the current favoured term.

VLE: Abbreviation for [Virtual Learning Environment](#).

Vodcast: A contraction of Video Podcast. A type of [Podcast](#) that incorporates video as well as audio.

Volatile Memory: Used to describe the internal main [Memory](#) of a computer that loses its contents when power is switched off. RAM is *volatile memory* as the information is stored in memory chips as an electric charge. See [RAM](#), [ROM](#).

W

W3C: Abbreviation for World Wide Web Consortium. An international non-profit organisation which acts as a resource centre for the World Wide Web, and is active in setting technical standards. The current Director of W3C is Tim Berners-Lee, the inventor of the Web. The W3C website can be found at the URL <http://www.w3.org>. See [World Wide Web](#).

WAN: Abbreviation for Wide Area Network. A network of computers located at geographically separate sites. See [LAN](#), [MAN](#).

WAP: Abbreviation for Wireless Application Protocol. A system that enables you to browse online services, e.g. relating to information about the weather, traffic conditions, shopping, etc via a special type of mobile phone. WAP is the mobile phone equivalent of the World Wide Web. Newer mobile phones include WAP browser software to allow users access to WAP sites.

Warchalking: *Warchalkers* make chalk markings on walls or pavements to indicate that there is an insecure wireless access point nearby. The symbols not only mark the location of the wireless access point but also indicate the network type, name, and bandwidth. The markings are similar to the symbols used by tramps to communicate information to fellow itinerants about the friendliness of a place or its inhabitants. The term derives from the 1983 film *War Games* in which a teenager uses software to dial randomly selected telephone numbers, eventually managing to hack into a military computer and start World War III. People initiated in the ways of warchalking recognise the symbols and then all they need to do is take up a comfortable position with their laptop computer, suitably equipped with a wireless network card, and get online using someone else's bandwidth. See [Wifi](#).

WAV: Short for Waveform Audio Format. A format for storing high-quality audio files. Somewhat hungry in terms of storage space compared to the [MP3](#) and [WMA](#) audio file formats. See [Media Player](#). See [Section 2.2.3.3, Module 2.2](#), headed *Sound recording and editing software*.

Web: See [World Wide Web](#).

Web 2.0: Contrary to what many people think, Web 2.0 is not a new version of the World Wide Web. The term arose as the name of a series of conferences, the first of which was held in 2004: <http://www.web2summit.com>. Essentially, Web 2.0 is an attempt to redefine what the Web is all about and how it is used, for example new Web-Based communities using *wikis*, *blogs*, *podcasts* and [Social Networking](#) websites that promote collaboration and sharing between users - in other words, a more *democratic* approach to the use of the Web. In order to achieve this, Web-based applications have to work more like desktop applications, allowing Web users to use the Web in much the same way as they would use applications on their desktop computers. To what extent the concept of Web 2.0 is truly innovative is a matter of debate, as it is broadly in line with the concept of the Web as defined by its inventor, Tim

Berners-Lee, way back in 1998. See [Section 2.1, Module 1.5](#), headed *What is Web 2.0?* See [AJAX](#), [Blog](#), [Mashup](#), [MUVE](#), [Wiki](#).

Web Address: See [URL](#).

Webcam: A camera connected to a computer and linking it to the [Internet](#). Webcams can be set to transmit a live picture every few minutes from a location to a website, displaying a live view of a landscape, cityscape or interior of a building, or they can be used in [Videoconferencing](#). See [Section 1.2.6, Module 1.2](#) for an illustration of a webcam. See [Section 14.1.3, Module 1.5](#), headed *Videoconferencing: a synchronous communications medium*.

WebCT: A [Virtual Learning Environment \(VLE\)](#). [Blackboard](#) and *WebCT* announced an agreement to merge in October 2005. Effectively, Blackboard has now taken over *WebCT*.

Weblog: The full form of the term [Blog](#).

Webmail: A facility for creating, sending and receiving messages via the [Internet](#). *Webmail* offers an alternative to using email software such as [Outlook](#) or [Eudora](#): see [Email](#). In order to use webmail you have to register with an [Internet Service Provider \(ISP\)](#) and you can then access their email service via your Web [Browser](#). See [Section 14, Module 1.5](#), headed *Computer Mediated Communication (CMC)*.

Webquest: A *webquest* is a task-oriented activity in which the learner draws on material from different websites - but other sources may also be consulted - in order to achieve a specific goal, e.g. researching a topic and (i) answering a series of questions posed by the teacher, (ii) creating a presentation or (iii) writing an essay, etc. The skills that are required in a *webquest* mainly involve reading and listening, but there may also be communicative speaking exercises. See [Section 7.3.1, Module 1.5](#), headed *Webquests*.

Web Server or Webserver: A computer or a software package running on a computer that delivers, i.e. *serves*, Web pages to its *clients*: see [Client](#) and [Host](#). Every *Web server* has an [IP Address](#) and possibly a [Domain Name](#). For example, if you enter the URL <http://www.ict4lt.org/index.htm> in your [Browser](#), this sends a request to the [Server](#) whose domain name is **ict4lt.org**. The server then fetches the page named **index.htm** and sends a copy of it to your browser. Any computer can be turned into a Web server by installing Web server software and connecting the machine to the [Internet](#). By far the most popular Web server software in use worldwide is the [Open Source Apache](#) software: <http://www.apache.org>

Website: An area on the [World Wide Web](#) where an organisation or individual stores a collection of pages of material - **Web pages**. The pages are usually interlinked with one another and with other websites. Every website has a unique [Web Address](#) or [URL](#). The full URL of the ICT4LT website is <http://www.ict4lt.org>

Webwhacking: This involves saving entire websites for use offline. It may breach copyright because it involves **copying** the website to a local drive, either a network server or a stand-alone computer's hard drive. See [Section 4, General guidelines on copyright](#).

WELL: Acronym for Web Enhanced Language Learning. The (now defunct) WELL Project was co-ordinated by William Haworth, Liverpool John Moores University. It was set

up in 1997 with assistance from the higher education Fund for the Development of Teaching and Learning (FDTL) in order to promote wider awareness and more effective use of the World Wide Web in Modern Foreign Languages teaching across higher education in the UK. The funding period came to an end in August 2001. The website is still available as an archive, but it has suffered from substantial losses of valuable information:

<http://www.well.ac.uk>

Whiteboard: See [Interactive Whiteboard](#).

Wide Area Network (WAN): See [WAN](#).

Wifi: Wireless Fidelity, also known as *wireless networking*, a way of transmitting information without cables that is reasonably fast and is often used for laptop computers within a business or a university or school campus instead of a [Local Area Network \(LAN\)](#) that uses cable connections. *Wifi* systems use high frequency radio signals to transmit and receive data over distances of several hundred feet. Many hotels and airports now offer wifi access to people travelling with laptop computers.

Wiki: A website or similar online resource which allows anyone to set up a resource in which content can be created collectively. It's important feature is that it allows anyone who views the wiki to add to or edit the existing content as if they were adding to or editing, for example, someone else's *Word* document. Wiki also refers to the software used to create such a website. The word "wiki" derives from the Hawaiian "wiki-wiki", meaning "quick". **Wikipedia** is the best known example of a wiki. It's a collaboratively written encyclopaedia:

<http://www.wikipedia.org>. There is an article on Computer Assisted Language Learning in Wikipedia, which you can add to or edit yourself: http://en.wikipedia.org/wiki/Computer-assisted_language_learning. It is also possible to set up a personal wiki that cannot be added to or edited by other people, e.g. here is Graham Davies's personal wiki: <http://grahamdavies.wikispaces.com>. Wikis may also be used for [Conferencing](#): see [Section 12, Module 1.5](#), headed *Discussion lists, blogs, wikis, social networking*.

Wild Card or Wildcard: In a question-answer dialogue which aims not to be over-sensitive about spelling, the teacher may decide to allow for aberrations by declaring certain characters "wild". For example, the answer "relitivy" would match with 'r?!t?v?t?', the question marks representing wild card characters: i.e. whatever the learner types in place of them is accepted. Conventionally, a question mark is used for a single character and an asterisk for a string of characters. A technique also used in programs that help you cheat at crossword puzzles! *Wildcards* can also be used in search engines such as [Google](#) when you are not sure of the spelling of the item you are searching for: see [Section 4, Module 1.5](#), headed *Search engines: How to find materials on the Web*.

Window: An area of a computer screen set aside for a special purpose. Modern computers, such as the Macintosh and most personal computers, divide the screen into discrete sections, known as *windows*, within which different pieces of software can be run at the same time - although not necessarily strictly at the same time, as normally only one window is active: see [Multitasking](#). The user can control the size, shape and positioning of each window. Data, e.g. a piece of text, a picture or numerical data, can be moved or copied and pasted from one window to another. See [Windows](#).

Windows: The name of a range of several different [Graphical User Interface \(GUI\)](#) operating systems produced by the Microsoft Corporation. *Windows 3.0* and *Windows 3.1* were the first operating systems of this type, produced by Microsoft, to appear in the early 1990s. The Apple Macintosh computer, however, had been using a GUI (which was not known as *Windows*) from the mid-1980s. *Microsoft Windows* is currently the most widely used GUI for personal computers. It exists in various versions, e.g. Windows 95, 98, ME, NT, 2000 and XP. See [MS DOS](#), [Operating System](#).

Windows Explorer: Microsoft's tool, provided as part of [Windows](#), that enables you to inspect and manage *folders* and *files* stored on your computer. *My Computer* is an alternative tool, also provided as part of *Windows*. See [File](#), [Folder](#).

Wireless Fidelity: See [Wifi](#).

Wireless Mouse: A [Mouse](#) that does not require a cable connection to a computer, but which operates via infrared or radio signals.

Wizard: Software that guides the user step-by-step through a complex task, such as setting up software on a network or configuring a printer to output data in a special format, e.g. for printing labels from a database program.

WMA: Abbreviation for Windows Media Audio. Microsoft's audio encoding format which offers high-quality output with lower file sizes. See [MP3](#), [WAV](#), which are alternative audio file formats. See [Media Player](#). See [Section 2.2.3.3, Module 2.2](#), headed *Sound recording and editing software*.

Word: A popular word-processing package, produced by Microsoft. See [Word-processor](#).

Word-processor: Probably the most widely used computer [Application](#). Modern word-processors allow the user to create fine-looking documents including images, tables, photographs, and even sound and video recordings if they are to be viewed on screen rather than from the printed page. In many respects they are similar to [Desktop Publishing](#) applications. Word-processors normally include a spellchecker, a grammar checker, a style checker and a thesaurus, as well as tools for writing in [HTML](#), the coding language used for producing Web pages. Word-processors have been widely used in teaching and learning foreign languages ever since they first appeared. See [Module 1.3](#), *Using word-processing and presentation software in the Modern Foreign Languages classroom*.

Wordsnake: An exercise in which all the spaces in a sentence have been removed, the learner's task being to put the spaces back into the correct positions in the sentence. See [Section 3.1, Module 1.3](#), headed *Using the space bar: Wordsnake exercises*.

Workstation: A term that is rather loosely used these days. Most people use it in the context of any computer that forms part of a [Network](#). Formerly, this term was applied to a particular type of powerful computer used for scientific and engineering calculations, e.g. the *Sun Workstation*.

WorldCALL: The worldwide umbrella association for CALL. <http://www.worldcall.org>, which has the aim of helping countries that are currently underserved in the applications of ICT. The First World Conference on CALL was held at the University of Melbourne,

Australia, in 1998. The Second World Conference on CALL took place in Banff, Canada, in 2003. The 2008 WorldCALL conference will take place in Japan.

World Wide Web: Usually referred to simply as **the Web**. This is the most powerful and fastest growing [Internet](#) service. The World Wide Web was the brainchild of Tim Berners-Lee, who in 1989 invented the [HTML](#) coding language that is the basis of the Web. The Web became a public service in 1993. It is a huge collection of resources of information, including learning materials, which is accessed by means of a computer program known as a [Browser](#). The World Wide Web is only part of the Internet, but many people treat both terms as synonyms. See [Module 1.5](#), *Introduction to the Internet*, [Module 2.3](#), *Exploiting World Wide Web resources online and offline*, [Module 3.3](#), *Creating a World Wide Web site*. See also [Web 2.0](#).

Worldwide Web Consortium (W3C): An international non-profit organisation which acts as a resource centre for the World Wide Web, and is active in setting technical standards. The current Director of W3C is Tim Berners-Lee, the inventor of the Web. The W3C website can be found at the URL <http://www.w3.org>. See [World Wide Web](#).

Worm: A computer worm is a self-replicating hostile computer program, similar to a computer [Virus](#). A virus attaches itself to and becomes part of another program, but a worm is self-contained and does not need to be part of another program to propagate itself. Worms can cause considerable damage to computers. See [Trojan](#).

WORM: Acronym for Write Once Read Many. Now a rather dated term, originally applied to a type of [Optical Disk](#) on which information could be written just once and could not be amended or erased.

Write Protect: To protect a [Storage Device](#), [File](#) or [Folder](#) so that its contents cannot normally be altered or erased. This may be done physically, e.g. by moving a notch on a floppy disk's casing, or - more commonly these days - through software that designates the device, file or folder as read-only.

WWW: Abbreviation for [World Wide Web](#).

WYSIWYG: Acronym for What You See Is What You Get, dating back to the pre-*Windows* and pre-Mac period, when what you saw on the screen, e.g. in a *Word* document, was not necessarily what appeared on your [Printer](#) - something we now take for granted. See [Windows](#).

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X

XML: Abbreviation for eXtensible Markup Language. XML is a specification emanating from the World Wide Web Consortium (W3C) that allows Web designers to create their own language for displaying documents on the Web. XML is an extension to the standard language

for creating Web pages, [HTML](#), and makes it possible to create websites containing more complex interactivity.

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Y

Y2K: Year 2000. See [Millenium Bug](#).

YouTube: A website to which you can upload your own video clips and view video clips uploaded by others: <http://www.youtube.com>. See [Section 2.2.3.6, Module 2.2](#), headed *Saving and converting streaming media for use offline*.

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Z

Zip Disk: A portable type of disk used to store around 100Mb of data. Zip disks have become obsolete since the arrival of smaller and more convenient storage devices with much greater storage capacity, e.g. the increasingly popular [Flash Drive](#) or [Memory Stick](#). See [Storage Device](#).

Zip Drive: A type of disk drive that accepts portable *zip disks* (see above). Zip drives themselves are also portable and can be connected to almost any computer. See [Zip Disk](#).

Zip: Used as a verb to describe the process of compacting files or programs in order to cut down the amount of storage space they require by compressing them into one tightly-packed file and thus to make it easier for them to be transported on floppy disks or transmitted electronically to other locations, e.g. via the Internet. Proprietary programs, such as **WinZip** or **WinRar**, can be used to zip data and files. Zipped files are recognised by the [Extension](#) **.zip** or **.rar** (for files created with WinRar) and have to be unzipped before they can be used, again using proprietary programs.

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